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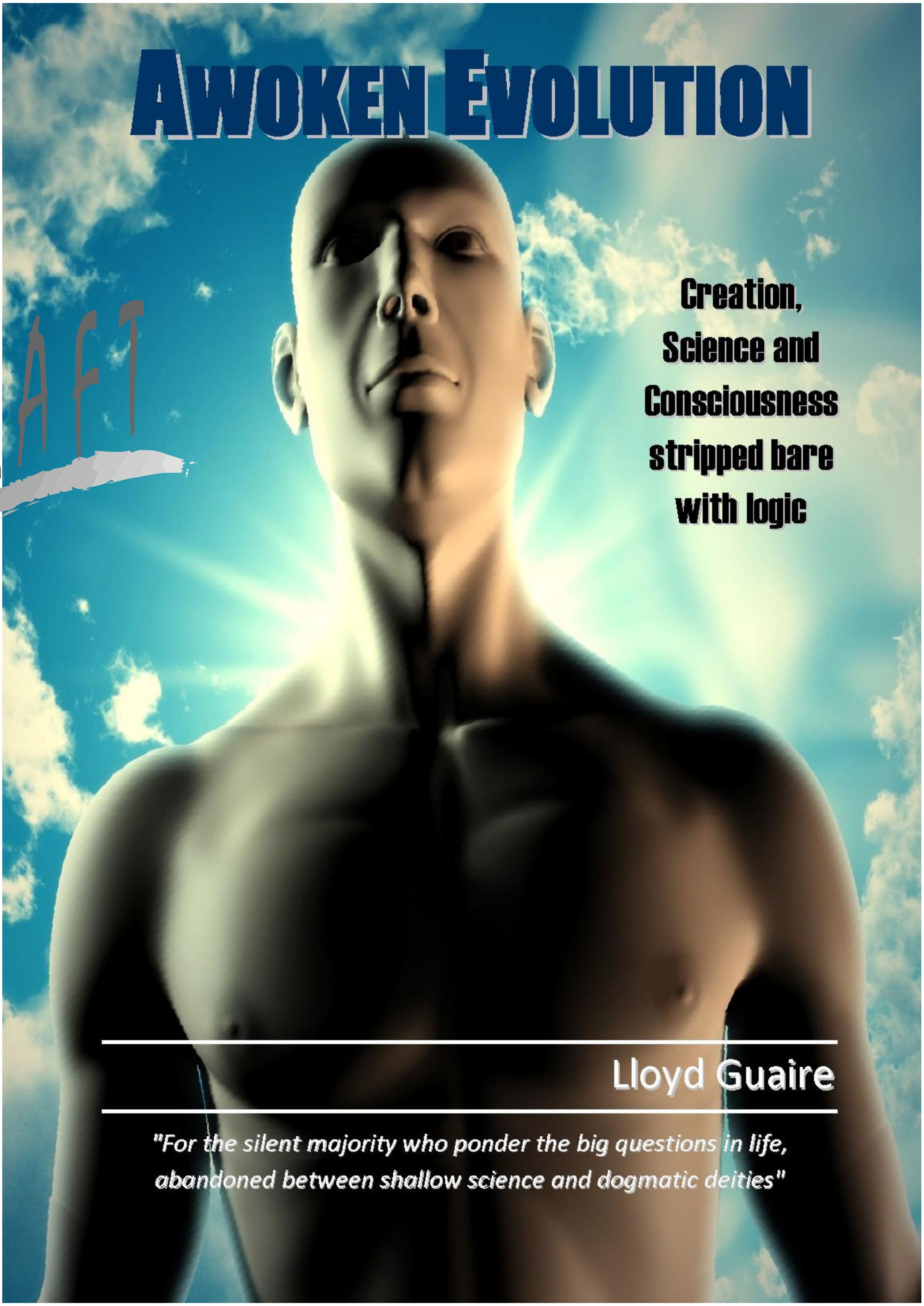

AWOKEN EVOLUTION

Creation,
Science and
Consciousness
stripped bare
with logic

Lloyd Guaire

"For the silent majority who ponder the big questions in life, abandoned between shallow science and dogmatic deities"

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Awoken Evolution

About "***Awoken Evolution***"

Awoken Evolution is about *evolution versus creationism*, *fatalism versus faith*, applying secular philosophical analysis to both extremes in order to disprove the presumptive prejudice that creationism and faith are irrational as inferred by theistically averse evolutionary dogma, and in order to restore logical credibility to the rationale of the thinking person who seeks out that which is beyond science.

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"Back Cover"

What is it within each of us that knows we are alive?

After Plato, perhaps it was Descartes[1] who was the most significant philosopher to strive for logical "evidence" that human beings have a separate conscious awareness or "soul" to those who don't mind the religious connotation. This thinking has become known as Dualism because it identifies a dual reality, one being our inner reality and the other being the reality in which we exist. Furthermore, Descartes found a way to distinguish between them. He found we can question, doubt or just close our eyes to the reality in which we exist, but we cannot doubt or escape our sentient and sapient inner reality.

Readers will likely be aware of Richard Dawkins and other eloquent protagonists of Darwinism. Whilst it takes a brave man to try and talk down the obvious validity of evolution, should we be so quick to conclude such theories can lead us to all the answers? How does such a formulaic universe explain your or my inclusion in it? What of our individuality, pain and joy? Dualism is the logical vindication of the tacit knowledge of a spiritual nature that so many of us find undeniable. Far from such knowledge being an irrational belief, we will demonstrate that its validity is ironclad and elevates our questions far beyond mystical escapism.

And then of course there are many more questions.. such as where did everything come from before the big bang? How did the first cells replicate? Why is all life on earth related back to just one cell type? Why are there a billion trillion stars[2] but despite our telescopes and radio dishes we find ourselves with no evidence of any other sentience or sapience in the universe?

Is there more to life than meets evolved eyes?

Forward

"A little philosophy inclineth man's mind to atheism, but depth in philosophy bringeth man's minds about to religion." -- Sir Francis Bacon (b1561)[3].

On the face of it, Bacon is hardly an authority to be quoted regarding Evolution Versus Creationism given that he hails from the 16th century where there was a great deal of coercion to agree with theological dogma. Nonetheless, he is also credited with having acted as a catalyst for the scientific revolution with his movement towards empirical "experience and observation"[4]. Whatever the validity, his quote about sums up *Awoken Evolution* -- to dig deeper, below the obvious.

As we enter a new era of logical freedom from superstition, we find ourselves in a period of scientific boomtime, and as the popularity of science grips us, theories exposing and discrediting religious accounts of creation and emotion are thrown about with gay abandon. Talk of "spiritual guidance" and of the "soul" is seen as an irritation, an irrational distraction from further logical growth to be hurled on the scalding heap of contempt along with voodoo, Aztec sun worship and Greek mythology.

The result is that our inner sanctum, from where we individually control, observe and judge, is becoming denigrated to the point of self-denial. As we come to terms with the undoubted reality of evolution, are we in danger of being so absorbed by the detail that we find ourselves in an intellectual cul-de-sac? What of the bigger picture? "Why do I find myself here, in this body and at this time?"; "How can dust entomb me, give me pleasure, trap me in pain?"; "Why do I pass in and out of consciousness when I sleep and wake and when I'm born and die?"

---

[1] French philosopher, 1596

[2] Astronomers estimate that there are at least 70 sextillion (7×10^22) stars in the observable universe - source: http://en.wikipedia.org/w/index.php?title=Star&oldid=278440452 - not quite a trillion trillion which would be 10^24..

[3] Quotation from http://en.wikipedia.org/w/index.php?title=Francis_Bacon&oldid=384993703#Philosophy_and_works. Apparently George Santayana (16 December 1863, Spain) responded with his own version: "The God to whom depth in philosophy bring back men's minds is far from being the same from whom a little philosophy estranges them" -- http://en.wikiquote.org/w/index.php?title=George_Santayana&oldid=895275

[4] From http://en.wikipedia.org/w/index.php?title=Francis_Bacon&oldid=384993703, Bacon is known as a "pioneer in the scientific revolution" and from http://en.wikipedia.org/w/index.php?title=Francis_Bacon&oldid=340497146: "Bacon contrasted the new approach of the development of science with that of the Middle Ages. He said:" ---- "Men have sought to make a world from their own conception.... but if....they had consulted experience and observation, they would have the facts and not opinions..."

Awoken Evolution is about "outing" our Quintessential Conscious Awareness, our sentience and sapience, separating it from its religious collateral, restoring its academic credibility and inviting deeper exploration of it to get closer to the truth about evolutionism/creationism...

A Note On Sources

Awoken Evolution is not intended to be an "easy read" as its purpose is to provide a complete, robust and reasonably researched debate on the aforementioned subject matter.

Citing sources becomes important where the purpose of a treatise is to establish credibility for a given point of view or fact, especially where the subject matter relies on logical evidence more than material evidence. To meet the credibility challenge and compensate for a reduction in material evidence, it was thought necessary to support the logical evidence with heavy use of references and citations.

The most credible sources are of course scientific and from related academia. However, as one of the aims of the subject matter is to challenge scientific thinking, we need to source a knowledge base that leans equally towards the philosophical. Given this need and the volume of citations we have chosen, we have predominantly chosen Wikipedia (wikipedia.org).

Wikipedia also has the benefit of being a resource that is readily and freely available and accessible to readers, especially if this text is accessed through electronic Internet-aware technology.

1 Departure Lounge

"If there is no God, everything is permitted", Fjodor M. Dostoevsky.[1]

This simple logic is undeniable and yet, despite the discrediting of creationism and the resulting denigration of religions, we all continue to struggle with conscience and we are outraged by those few among us that don't. Moral conduct is something we attribute to Homo Sapiens, something expected from people, something enshrined by law, something from which animals and machines are exempt. Are we deluding ourselves holding any stock in such principled behaviour? The strength of our feelings on the subject, and indeed the absolute fact that we possess any feelings at all, would tend to suggest there is something highly incongruous afoot. And here we find ourselves cut adrift by conventional science, pondering the true nature of reality.

We can ask all the usual questions, are we alone, what does it all mean, is there something bigger than us? But are we not better served by some more pointed questions such as what is it within us that knows we exist, where does that inner experiencer come from and where will it go to? Before we can consider the answers, we need to understand and refine the questions. Perhaps such questions boil down to this.. is there more to life than meets the eye? A technically complete version of the question would be to ask if the act of experiencing consciousness is simply a physical, neurally bound phenomenon, or is there an incorporeal ingredient hitherto unexplained?[2]

Having refined the question, we can go to work, not only finding answers but also finding the means to support deeper answers with logic and discipline. However, before we can do that, let's take a moment to introduce the reason for even wanting to do these things...

It is of course necessary for scientific process to be pragmatic, for logic and intellectualism to be precise, disciplined and concise, but this pursuit of truth through reductionism, through reducing existence to a set of conveniently located steppingstones allowing the most simplistic route through the maze, can make conclusions superficial and permit a natural bias towards intellectual atheism. *Awoken Evolution* was written in an effort to challenge the indoctrination of "theistically averse science", to mitigate the apparent hypnotic certainty of evolutionary dogma, to allow a rethink of what it is to be human.

Theistically averse science is based on presumptions that the universe, with all the highly evolved life within it, can be explained through rationale and reductionism. As we will demonstrate, such presumptions ignore the profound phenomena of sentience[3], ignore the high probability that an infinite universe would give rise to the preternatural[4], and sideline the improbability of a universe appearing out of nowhere giving rise to me and you, existing and knowing of our existence. Such presumptions cannot be proven or even substantiated, and in the face of such probabilities and improbabilities, atheism simply becomes another unfounded belief. Science, as the gatekeeper of human intellect and disciplined thought, must take care not to nurture such belief.

Equally, religion must also find itself under the spotlight, subjected to a reasonable examination of its motives and benevolence, and the question must be asked why it too is evolving (Christianity's shift from the "eye for an eye, tooth for a tooth" approach of the Old Testament to the "love thy neighbour" of the New Testament, etc). Indeed, far from criticising science, it is hoped to apply the logical discipline of scientific method (evidence-based theories subject to analysis and test, insofar as is possible in this realm) to show that atheism is not necessarily such an obvious conclusion, and raise the question as to whether or not there is more to life than is explained by Darwinism and related theories. "Philosophy is the science which considers truth" -- Aristotle[1]. Philosophy, especially the philosophy of metaphysics, will play an important part in this text. If scientific method is a logical discipline that submits all theory to attack, test and evidence, then philosophical tools should be amongst the weapons in such an attack, used for digging deeper and exposing questions that should be asked of scientific theory, especially areas of theory that cannot be practically subjected to empirical analysis, such as the big bang theory and evolutionary basis for consciousness.

---

[1] quotation from Russian Writer also known as Fyodor Mikhailovich Dostoyevsky or Dostojewski, credited by some scholars as the founder of existentialism. http://quotes-of-wisdom.eu/en/author/fjodor-m-dostojewski/biography.

[2] See also 1.6.1 "Neurally Bound Consciousness" where this theme is further expanded

[3] The ability to feel or perceive

[4] "..that which appears outside or beyond (Latin præter) the natural. In contrast to the supernatural, preternatural phenomena are presumed to have rational explanations as yet unknown" http://en.wikipedia.org/w/index.php?title=Preternatural&oldid=395020393

For those with knowledge of philosophy, the question posed herein of the independence of consciousness is pivotal to the question of whether or not there is more to life than meets the eye. This independence of life force is along the lines of Cartesian Dualism,[2] a philosophical concept that occurred to Descartes when "he discovered that he could doubt whether he had a body (it could be that he was dreaming of it or that it was an illusion created by an evil demon), but he could not doubt whether he had a mind. This gave Descartes his first inkling that the mind and body were different things." (as borrowed from one edit in Wikipedia).[3]

Awoken Evolution is not a criticism of creationism, evolution or science, nor is it an exercise in mediocrity looking for a hybrid theory that appeases both science and religion. This is not an advocation of religion per se, nor an exploration of agnosticism, but religion currently deals with aspects of reality left untouched by science, and perhaps it is that denial commonly found in scientific thought that these questions should confront. That is to say, from a personal perspective, religious people know exactly what "I" am talking about when discussing that part of "me" which is more real to me than anything else in the universe, that part of me that I use to judge reality with, that inability to escape from the experience of my own existence. This is something religions variously call the "soul" or "spirit" (or "thetan" in Scientology, etc), all of which is terminology saturated by associations, and so we will call it our "Life Force", our "Wakeful Awareness", or anything that is without religious connotation and yet intellectually challenging.

In summary, this is an attempt to provide support for the oft abandoned thinking person who questions that which is beyond him or herself.

1.1 The Quest

Evolution and physics leave us with many unanswered incongruities, many instances of unusual phenomena that give us cause to ponder the true nature of the fabric of reality, many reasons to question conventional scientific wisdom. Such incongruities include the inexplicable nature of consciousness, infinity in terms of space and time, the speciation leap between ape and man (the so-called "missing link"), and the common single cell ancestor shared by all living creatures and plant life on earth.[4]

Even the exponential rate of human advancement over the last few decades can be considered to be incongruous. We find ourselves existing in a time of technical and educational enlightenment beyond the wildest imagining of even our recent ancestors. And yet here we are, considering our very place in the universe, the product of an exponential rise of intelligence that could be said to have multiplied in various stages starting five millennium ago when we moved from our Stone Age cavemen ancestors with the advent of the Bronze Age. This was followed by the Iron Age just over a millennium ago, and then two centuries ago with the Industrial Revolution. Now we see an even sharper increase with the computer age in the last few decades. And yet, here you and I just happen to "be", existing in the steepest part of this exponential rise. Even more incongruous is that this has apparently never happened before in the trillion trillion millennia that matter and the laws of physics, or their preceding constituents, have undoubtedly been in existence -- the chances of which are statistically infinitely close to zero.[1]

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[1] Great-Quotes.com. Gledhill Enterprises, 2011. Thu Jun 9 03:21:41 2011. http://www.great-quotes.com/quote/23407

[2] See also 6.2.1 "Who Was Descartes?"

[3] See http://en.wikipedia.org/w/index.php?title=Dualism_%28philosophy_of_mind%29&oldid=224692055#Descartes_and_his_disciples)

[4] cited in 4.2.3.1.1 "Volcano Vents"

In *Awoken Evolution*, we return time and time again to the greatest ponderable of all -- consciousness. The "experience of existence" is too easily whitewashed with the expression "self-awareness" which poorly describes the very personal feeling that each and every one of us has when we are immersed in sensations such as pain and the vitality of individual perception that makes us feel to be at the centre of our own universe.

It is interesting to note that words and metaphors do not lend themselves easily to describe and explain the experience of existence from a personal perspective unless we resort to religious dualism, ie: the separation of soul from body. Self-expression (poetry, humour, the arts in general) and respect for other "selves" (love, compassion and selflessness) can be considered to be symptoms or evidence of something profound within ourselves,[2] but the arts do not describe the experience directly. Philosophy studies the phenomenon but still falls short of a straightforward description. How can we describe our own consciousness to others? How can we find words to demonstrate the totality attached to our own individual experiences, the inexplicable nature of simply finding ourselves in existence, and the incomprehensible fracturing of our individual reality that apparently occurs when our mortal bodies terminate?

Religion, much maligned as a political control mechanism and the cause of war and deprivation, is overlooked in itself as one of the symptoms - this yearning to seek spiritual solace exhibits a level of awareness that is absent from all other known lifeforms. Religion is a means of maintaining our inner validity and coming to terms with our mortality. The need for any such support mechanism surely makes it evident that there is more than cellular machinery at play.

And what of our innate need for inner recognition and purpose? Many of us are irked by the apparent pointlessness of our own existence, are driven to find a point to it all, and actively seek spiritual guidance. Is the absence of any academically legitimised recognition of our inner self a significant contributing factor to social and neurological disorders, including overeating, anorexia, self harming, and even antisocial behaviour?

Can such yearnings be written off as instincts evolved out of millennium after millennium immersed in religious belief that only emerged to benefit social cohesion and tribalism? After all, does not religion benefit communities through sense of purpose, unity, and leadership? Perhaps that is so, and if the unanswered incongruities raised in this current time of enlightenment are to be answered, there is much genetic susceptibility towards religion to unravel before we can take a long, cold, unbiased review of the reality we find ourselves in. And yet, perhaps not. Is the spontaneous emergence of spiritual impulses really that likely? Dolphins, elephants, whales and chimpanzees show no signs of having evolved such yearnings. If it is supposed our ancestors were not that bright, the very first time someone tried to explain the unknown with supernatural explanations must have seemed pretty unhelpful, just as many find it today. Surely survival of the fittest would have favoured the most pragmatic explanations? And so such spiritual impulses may not be so easily written off as a byproduct.

We only need begin to think about all these imponderables, incongruities and yearnings and we find ourselves compelled to embark on a quest to understand them.

Thus we shall proceed in an analytical fashion, sometimes criticising religion, sometimes criticising science, looking for chinks in what we do know, exposing the vastness of what we don't.

---

[1] See 7.3.1 "Probabilities Reassessed"

[2] See later passage: - "--- ---" where much expanded

1.2 Questioning Experience

We begin by looking at what an experience is. Of course we are not talking about "past experience" such as when we list our experience on an application form, but about the new experience we feel upon the ultimate realisation of a sensation.

Using the following paragraph of descriptive prose to set a vivid scene to stimulate the mind, we will attempt to contemplate the true nature of experience. Allow yourself to imagine a different world momentarily, considering the colours, sounds and textures in particular...

> With the gentle morning sun warming your face, you find yourself awaking atop a knoll in rolling meadows, awash in amber radiation. As your eyes adjust, you see dew drops shimmering upon the tip of turquoise-green blades of grass serenely pushing their way through the warm morning haze to your senses. Buttercups and bluebells, like jewels strewn over velvet, compete lazily for the gaze of insects, the promise of nectar heralded by the fluttering of petals in a zephyr of wind. Brooks contour the seams between rolling hills, burbling with cool refreshment for the shrubbery bursting out of their banks. A crescendo of blossom perpetually undulates in caressing winds as if a Greek god felt impelled to trap the essence of fireworks at the moment of ignition forever. Sun beams animated by the breeze through twig and leaf, dance across the morning mist.

Now that we have immersed ourselves in a sample imaginary scene, ask yourself this question -- We know it was your cerebrum that interpreted the scene, your head rekindling similar memories and creating the images you saw, but, if your head was manufacturing the image, which part of you actually experienced it? Is this the "you" inside your mind that can experience and see the scene your brain created? What is this thing we call "you"? It seems as if the brain is able to experience specific aspects of activity within it. Data-processing within the brain is occurring all the time and yet, in addition to this processing activity, our "experiencer" is able to reach in and feel selected activities.

To demonstrate the point better, you could go further and set your own scene. If I were to prompt you without actually helping you create the scene, then I might suggest you imagine a ferocious storm on an ocean, a dispute in a bustling Asian market full of smells and sounds, or perhaps you could imagine the sterile soundless experience of standing on the moon.

Were you to find yourself in a vivid world of your own design, your own imagination, then you may start to appreciate the difference between your brain as it generates and simulates the imagery and sensations you experience, and the experience itself -- that deeper part of you that we might call *The* ***Experiencer***, that sees what your mind has just created.

You are of course flesh and blood. Dust that has knitted itself together in the most ingenious ways to form cells that desire life and replication. The action of committing this image to memory, retrieving yet other images from memory and blending them together, caused a reaction in an example of something philosophers call apperception[1]. And yet, without the added stimulus of actually being in such a setting, without the certainty of knowing you were there and benefiting from it, you had an experience[2]..

Yet, upon what is this experienced? The mind processes all this imagery to create something to be observed, to be experienced. By what? The mind was busy doing what it does, analysing and processing but there is something associated with your body that is receiving this experience, something that you might call your inner self, the real you, something we might now refer to as "the Experiencer", something that deserves exploration.

To further emphasise the difference between the Brain and the Experiencer, consider two other instances of processing activity that are similar to brain activity, but different.

The first is "brain" activity that is not occurring in a brain -- the best example being a computerised 3-D arcade game generating the kind of imagery we might have encountered above. It might pay to remind ourselves at this juncture just how extraordinary these games have become, how they are able to "visualise" scenery that is usually far superior to the imagery generated in the mind's eye as constructed by the average individual, for example during the creation of the preceding "scene". Taking that into account, we now consider what is happening when no one is looking at the game and when it is perhaps in a prolonged demonstration mode, in effect playing itself[1].

---

[1] See also "Philosophy Reference"

[2] Another word to describe this is Noumena -- see http://en.wikipedia.org/wiki/Noumenon

We don't conclude there is any part of the computer that is an Experiencer, nor do we conclude that anything is being experienced. There may be characters within the simulation interacting with each other, hunting and evading, seeking prey and avoiding capture for reasons those characters do not understand, due to "instincts" the programmer has instilled.

Whilst it cannot be proven for certain, for the moment we will conclude what every ounce of our common sense tells us -- the computer is not awake, nor is it alive. When someone else is engaged with such an arcade game, no doubt experience is occurring, but the event being experienced is generated by the computer, and the actual experience is occurring within the person. Here we see the two different phenomena, the *processing* and the *experience*, distinctly separated into two locations. It would be an amusing folly to consider reversing those locations -- human's entertaining machines as in perhaps a play acted out to an audience of computers. This would allow us to imagine computers engaged in no other activity but for experiencing. Common sense doesn't even begin to allow us to imagine how a computer might be awake and alive in that context.

A second instance of brain activity that is worthy of consideration is sensory deprivation, when there is no experience to process. For most of us, the nearest we come to this state is lying in a hot bath with our eyes closed in a quiet room, thinking of nothing in particular. We are broadly cut off from sensation and yet our experiencer rumbles on while ever we are still awake. The fact that most of us lose consciousness in such circumstances (ie: fall asleep) is yet another observation that can be made from examining consciousness within brain activity. That is to say, "the Experiencer" can come and go or can be switched on and off!

We come back to computers and so forth later, but for now, let's conclude these initial comparisons and observations. Of course the *Experiencer* may simply be another part of the brain, but whatever it is, it is not a trivial phenomenon, it is a phenomenon that IS YOU. It is the part of your being that owns your limbs, your body and your brain. The purpose of *Awoken Evolution* is to determine what this experiencer is and what relationship it has with your physical body. We seek to examine whether or not the experiencer is simply another part of your brain as in the part ultimately assigned to witnessing the product of your imagination as generated elsewhere in your brain. We seek to find out whether or not this experiencer is merely a further sensation stemming from the circulation and storage of your thoughts and general neural activity. Failing that, we seek to understand whether or not the experiencer is some incorporeal phenomenon not necessarily inside you, not even necessarily having form or location at all.

Let's examine where the processing stops and the experience begins. Let's explore the part of us that experiences such imagery and indeed experiences all our reality.

1.3 Is True Sentience Possible?

Sentience, the ability to feel, is the seat of consciousness that allows cellular machines (because that's all we really are) to feel pain and pleasure. Sentience is a new frontier awaiting exploration and defying science to explain it.

When considering the bizarre array of physics that must be cooked together to allow atomic cohesion, controlled molecular mobility (as in muscles) and finally the electronic processing and cable ways with which to control them, the fact that there is an "I" that exists within this mechanism may seem less like such an extraordinary thing. If the laws of physics allow such a phenomenon, it was just a matter of time before it appeared.

But how *did* the laws of physics allow such a thing? That complex animated beings could ultimately harbour an integral consciousness, a trapped living thought process that is awake, is extraordinary enough. That such a conglomeration could harbour "me" or "you" makes that process something quite special. This is not just something observed, this is the Observer, the possessor of the observations our bodies make.

---

[1] A word to describe this is Noumenon (the opposite of "Noumena" as given in footnotes above) -- see http://en.wikipedia.org/wiki/Noumenon

To put it another way, it is remarkable enough that matter with time and energy evolved any kind of computer whether it be wet logic (human brain) or the silicon computer product we in turn developed. However, whilst an ordinary computer can observe with a camera, and can even observe unsupervised and act on that observation within itself (for example, closed-circuit television with movement detection alarms), and whilst it could even be programmed to make judgements on that observation, we do not presume that a computer could possess a "Me".

It is all but inconceivable that a computer could harbour a life force worthy of human rights, deserving of compassion and respect. It is reasonable to suppose that a computer could be programmed to sense and react to damage in that such sensations could assist it to form the necessary responses to protect itself, but it's inconceivable, no matter how complex the device, that there would be suffering and something within that suffering, something at the centre of its sensations, something that can't escape, as is the case with our own central being. How could desire, satisfaction, fear and death possibly have meaning to a computer?

To examine this concept of suffering in a computer closely, consider a human being suffering a painful injury such as a twisted ankle. The person suffering the injury register's great pain on something within. Both computers and humans can understand destructive stimuli. However, a computer can only communicate a change in stimuli and mechanically interpret a failure, whilst a person also feels -- as well we all know. What is the difference and how can we express that difference? A person suffering such an injury would also likely cry out and communicate his/her distress to others. Other people could be the recipient of the communication and fully understand that damage has occurred without actually feeling the pain of the injury itself. This communication between humans is at best how a computer internally communicates a change in stimuli and mechanically interprets a failure. However, somehow the human nervous systems can also relay, or create, pain. Unlike a human, computers have only one sterile way of communicating and processing destructive stimuli. There is a difference in what is communicated. Is sentience the difference?

So something is missing about the communication and interpretation of destructive stimuli internally within the computer without which the overall sensation is less vital, is lacking sentience. What might we do to simulate this missing ingredient?

One could program various safeguards into a computer to prevent it from failing -- perhaps that would introduce sentience? There are common means of doing so even now. Computers frequently have dual hard drives, even dual power supplies. Moreover, industrial computers frequently have something commonly called a watchdog -- software that checks a number of symptoms to see if the computer is failing. If a failure is encountered, the computer fights the failure by restarting the process or processes in question. If the failure is irretrievable, the watchdog software will reboot the computer -- perhaps the equivalent of losing consciousness and regaining it again in humans.

Whilst there might be a limited understanding or thinking, these safeguards are processes that know something that could be described as pain or fear, even dread and anticipation. These are processes that know about termination and attempt to avoid it, just as we fear death and destruction. In this way, the computer can achieve a sense of individuality and mortality.

Would this awareness of its own mortality therefore introduce sentience? Perhaps it would but how would we know? How could we know the difference between a computer which is effectively asleep, automatically processing without feelings, and a computer that is somehow effectively awake, capable of perceiving those feelings as we do, a computer that is genuinely experiencing joy and suffering as we do?

Of course we can ask this exact same question of a human being. We can't "know" if an individual other than ourselves is genuinely awake either. Similarly, we are even less able to know if an animal or insect is genuinely awake in the same way that we know ourselves to be as individuals. The big difference is that with a computer we can take significant steps to attempt to measure the difference, steps that would be far too invasive with a human or animal or insect. We can test, measure and analyse precisely everything that occurs within a computer and yet the point is we wouldn't even know what to test for. What would or could be the difference between a computer dataflow which carries a message of pain, and a computer dataflow which carries pain itself?

Are there other ways we could refine our computer simulation of life? Would a computer be any different if these processes were able to intelligently self analyse and simulate understanding? We could continue refining but the same lack of ability to test or even define a test would continue to apply. So, if additional complexity makes no difference to the ability to test, is it therefore reasonable to presume no additional complexity can produce a measurable and quantifiable difference between being asleep and awake within a computer?

And can we say the same thing of the wet-logic in the human brain?

Let's look at this then from a sceptical view point. Let's presume there is simply some other physics occurring within a brain that provides consciousness, something that we simply haven't found or understood as yet. This is deferring the supernatural to the preternatural. For example, it may be in the nature of communication between neurons. This might be due to the analogue, chemical or pulsating electrical signals that we know exist. Therefore, could something which we as yet don't understand, but something which is completely within the realms of *non-theist* physics (as opposed to metaphysical explanations), be the source of human sentience?

As an aside, we can now introduce the term "non-theist". This is a term we will use frequently throughout to describe an "atheist" viewpoint. Whilst the word "atheist" simply means "without God", it is often misinterpreted as being "against God". Furthermore, there are of course many atheists who we don't want to categorise unfairly, and so we choose "non-theist" as a more neutral term with less association to any given group or belief set. It may be thought of as a less accusatory version of the word "atheist".

The non-theist individual can lay claim to evolution as a reasonable theory as to how consciousness and thus sentience arose. After all, if that same theory can explain the restructuring of matter into intricate cellular machines, with each microscopic cell containing delicate mechanisms, structures, and enough data to fill a camera memory card, then sentience could simply be a byproduct. All this "consciousness", especially as evident in the oversized human brain, is said to be explained easily enough by evolutionary extremes, especially those bubbles of genetic excesses often attributed to evolutionary fast tracking by sexual attraction and reproduction. Later, we refer to this as the Peacock's Tail[1] using the example of tail feathers that obviously hinder survival and thus do not obviously sit well with basic evolution. To touch on this without getting ahead of ourselves, such non-survival related characteristics are adequately explained by Richard Dawkins[2] as traits that bubble up through attraction, for example by proving fitness and virility to a partner, and then accelerated by genetic favouritism carried by the partner's genes.

Of course basic intelligence and human sapience [redacted] (wisdom and discernment[3]) is also readily explained in terms of survival of the fittest because it favours the owner. By considering those traits that thrive on human conscious awareness including respect, love, depth, compassion etc, the non-creationist can apply the Peacock's Tail theory by noting conscious awareness to be an attractive feature to the opposite sex.

Generally therefore, we could conclude there might be valid (non metaphysical) explanations for why consciousness might have evolved, and in due course we will go into various biological and philosophical discussions to support these "non metaphysical" explanations in great depth.

So doesn't that rather undo the purpose of the quest in this narrative? How do we confront this spiralling counterargument?

The problem is that as yet such physical explanations don't do anything to explain what sentient conscious awareness actually is. As explained prior, we still don't even know what to test for. From a personal perspective, we simply know our brains can be awake or asleep, conscious or unconscious. By attributing this phenomenon to physics beyond simple processing and communication, we simply push the problem further away by declaring it to be somewhere else yet to be discovered.

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[1] See also 4.2.3 "Peacock's Tail syndrome"

[2] See also "References"

[3] See also 2.2.1.3 "Sapience & Sentience, the Link"

And so it seems that such theories are simply proposing twists in the physics of our wet-logic computing system, twists which simply push back the original problem to a vanishing point. Regardless of how complicated the physics in our wet-logic may be, our brains must still comply with the laws of physics. The problem is that logic is logic, a processor is a processor, memory is memory, and regardless of how that is constructed, regardless of how unusual some properties are, we can still break this processing down (theoretically or literally) to understand how it occurs. And yet, if we cannot understand or measure conscious awareness in awaking computers, how can we possibly know what kind of process to even look for no matter how deep we delve?

Worse, by attributing consciousness to a chemical property or a particular state of electrical activity no matter how diffuse, we then create another problem for the scientifically rationalised theory of consciousness. We should be able to isolate that property and/or state, then move it. For example it might transfer unintentionally by a blood transfusion or by horizontal gene transfer attached to viruses[1] or with a deliberate transfer of melatonin[2]. We should even conclude that the food we eat becomes a part of our consciousness and that a breast-feeding baby can absorb its mother's consciousness, or that we can absorb the consciousness of an animal.

Consider the implications of the experiencer, the part of us that knows of our pain and pleasure, finding itself somewhere else. If such manipulations were possible, the ramifications would be colossal. We could theoretically export our own consciousness during brain surgery, or even just by excreting atoms that were once in our cerebral cortex. That could potentially lead to our consciously-aware "self" waking up inside a bug or a small rodent. Reincarnation becomes a logically viable possibility. Alternatively, if that special property and/or state is in knowledge instead of some materially transferable substance, we could then export our consciousness just by teaching others our knowledge and communicating conscious thoughts.

Finally there is another argument against the presumption that there are simply physics within the brain that we don't yet understand -- this is to presume that conscious awareness is preternatural. To presume a phenomenon is preternatural is to presume that science can explain the as yet unexplained phenomenon.. It is a presumption that is not without foundation as after all science has explained many things that we didn't understand in the past. However it is a presumption, it is a belief that the problem is explainable. It is, in short, a belief. One cannot argue or infer belief is delusional if the counterargument relies on any belief, even an ounce of belief.

If by logically following theories of neurally bound consciousness we arrive at improbable and absurd conclusions, then it seems reasonable to doubt those theories. Later, we will look at something called "Reductio ad absurdum" which allows a proposition to be "disproven by following its implications to a logical but absurd consequence". The consequences of attributing consciousness to a property and/or state don't get much more absurd!

We come back to the comparisons between humans and computers frequently throughout *Awoken Evolution*. Later, for example, we will look at the possible consciousness that exists in the wider web in the passage 2.2.1 "Experience and Computer Comparisons", but for now we need to get a greater understanding of what it is we are looking for..

1.4 Source Of The Experiencer

"We are imprisoned in life in the company of persons powerfully unlike us." -- Ralph Waldo Emerson[3].

"I am trapped inside this body and can't get out" -- Radiohead, in their album "Bodysnatchers"[4]

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[1] http://en.wikipedia.org/w/index.php?title=Horizontal_gene_transfer&oldid=352182906

[2] See also 7.2.2 "The Pineal Gland"

[3] Attributed to: Ralph Waldo Emerson (1803-1882), U.S. essayist, poet, philosopher. Journal entry, January, 1845. Quoted in Robert D. Richardson, Jr., Emerson: The Mind on Fire, ch. 31 (1995).

[4] http://www.scribd.com/doc/3229368/Radiohead

"I'm a prisoner of my own soul & my own mind." -- Poems by Madeleine Prinsloo, "Trapped Inside My Own Prison" [1]

These quotes refer to the oft voiced theme of being confined within our mortal bodies. Tracey Emin wrote "Trapped inside my own head, desperately fighting to get out." [2] In the 1988 book by Martin C. Dillon titled Merleau-Ponty's ontology, Dillon uses the word "ownness" as the feeling of owning oneself. What does that mean? What is it to be trapped within one's own body?

For all of us, regardless of our take on life (including those of us at ease with ourselves), the feeling of being locked inside one's body is easily noticed with a little inner reflection. When you are alone, you are aware that you are one individual, one indivisible unit. You experience the stimuli your body goes through and, apart from empathy and compassion, you don't experience anyone else's stimuli. The stimuli acting on your body become your sensations, your experiences, no one else's. You experience stimuli acting only on your body. What is this "you"? In short, this is the elusive property that we will pursue throughout *Awoken Evolution*, a phenomenon that we now call "The Experiencer".

The great French philosopher René Descartes differentiated repeatedly between the mind (consciousness) and the body (which includes the brain). As will be expanded and examined many times in *Awoken Evolution*, Descartes differentiated by noting that he could doubt anything that was happening outside of his thinking, but he could not doubt that he existed when he was thinking ("I think, therefore I am")[3]. From this, Descartes concluded that one's body and brain could fool the individual's conscious mind, for example with a phantom pain or hallucination, but nonetheless the experience itself, even if it was one of being deluded, could not be misrepresented or escaped.

What is this existence Descartes finds trapped therein? Above, we called it "you", The Experiencer. When we are conscious, we are aware of sensations. Indeed, we usually cannot isolate ourselves from intensely unpleasant sensations, notwithstanding that we can fall asleep to escape minor sensations. Being aware of sensations is "experiencing". Of course there are many facets to the mechanics of this phenomenon. Non-theist thinking may ascribe experiencing to being the creation of memory. Each of us trapped deep inside our material bodies "experiences" these sensations as we create memories. Regardless of the mechanics of the phenomenon, whether or not among other possibilities it is related to the formation of memories, there is this abstract part of us that is the ultimate recipient of experience. This is the "feeling register" or The Experiencer as we have now come to know it. So what is the nature of this "Experiencer" trapped within our material bodies?

Firstly, there is a lack of clear definition for the "experiencer" phenomenon. This lack of definition is a surprisingly big hurdle in any attempt to analyse it (and may in part explain the lack of scientific analysis of it). Words and phrases such as "self-awareness", "sentience", "consciousness", "soul" and "spirit" either don't do the phenomenon justice or come with too much religious baggage. An initial definition might describe it as the "experiencer within" or the "incorporeal consciousness" or the "core of our being". Further description might read as "the owner of the body, owner of its experience and perspective, the core entity that is unable to escape from the vividness of the sensations surrounding it, the judge of its surroundings". Throughout *Awoken Evolution*, we adopt the word *Quintessence* as an abbreviation for Quintessential Conscious Awareness being an attempt to grasp at the core of what awareness really means. This word *Quintessence* goes some way to descriptively titling this phenomenon whilst remaining theistically neutral (ie: avoiding words such as "spirit" or "soul"). Quintessence also avoids the technical nature of the phrase "The Experiencer".

We take for granted that the experiences sustained by our individual selves must have some kind of destination in order for them to even qualify as an experience. We take for granted that we think of the inner self as being this destination and in turn that the inner self is ultimately responsible for the greater self. An example of this is the way we talk about "myself", and make the distinction by referring to the outer layer as "my body", "your body". Consider an amputee who might say "I lost my arm" or an athlete who says "my leg is giving me pain". In this way, many of us acknowledge something within us that has responsibility for and ownership of our bodies. With phrases like "I find myself here", "I was beside myself", and "what will I do with myself", we take this acknowledgement to an even higher level.

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[1] http://www.poemhunter.com/poem/trapped-inside-my-own-prison/

[2] Article: My Life In A Column, Publication: The Independent, © 2007 Independent News and Media -- Friday, 16 November 2007 ©independent.co.uk http://www.independent.co.uk/opinion/columnists/tracey-emin/tracey-emin-my-life-in-a-column-400612.html

[3] See also 6.2.1 "Who Was Descartes?"

When examining "the experiencer" we also need to consider "the judge" within ourselves. This opens up yet another vast topic about Free Will that we will examine later, but as an introduction, we seem capable of interfering with the natural flow of cause and effect by adding judgement, morality, conscience and compassion. Objective scientific analysis would lead us to conclude our "wisdom" in this respect is the sum of all our memories, events and learned virtues. Thus, any judgemental action is simply the result of a logical procedure combining memories with the stimuli that prompts us to act. Therefore it may be true that we never actually make a judgement (beyond logical deduction), but we certainly think we do. To be precise, we have the "vivid experience" of making such judgements.

Whatever one's Quintessence is, it goes further than judging things, it can even judge reality. After all, is that not what we are doing here in this narrative? We "judge reality" whenever we decide whether or not information is real and should be acted on. Sometimes the information in question is simply whether or not we believe what we hear, whether or not an investment is good, whether or not a shortcut is worthwhile, etc. However, we also presume to be able to make the weightiest of all judgements, deciding between religion and atheism, or what philosophy or interpretation we subscribe to within each of these extremes. Sometimes we even have to literally judge reality. We have all had to decide whether or not we are in a dream at some time. In judging anything, we are engaging in an act of sapience (showing wisdom, discernment, judgement -- hence the term "Homo Sapiens"). In judging reality however, we are automatically presuming our inner quintessence is the Ultimate Reality. Quite a presumption for something simply called "consciousness", something as elusive as the difference between being awake and asleep.

Consider what happens when we take this elevated inner reality to its extreme. What happens when we try to judge the validity of our own inner experiencer? We are recursively judging the reality by which we can judge reality and this therefore becomes difficult. This inner experiencer, our quintessential conscious awareness, is difficult to describe and judge because it is "pure reality" and there is nothing else to compare it to. We simply know we have this inner reality because we each individually know we exist, and yet we can't simply judge or explain it. We have no access to a perspective that could be considered to be a higher reality than that of our own quintessential inner reality.

In this context, consider what it is to "know" that the universe is real. This introduces the realm of epistemology[1], the study of knowledge. We observe information and make a judgement from the seat of our inner pure reality, and we decide it is real. We "realise" that the universe exists. We make that fact "real". Whether or not anything actually is real is a rather esoteric question that we can discuss later.[2]

This elevated inner reality is all another very significant point but it is still not enough to empirically establish that we are any different to a "dead" logical process such as a computer program. Even a computer program can judge reality by determining whether or not something makes sense. Such a computer would only need a frame of reference such as, for example, knowing that a floating heavy object cannot be real because heavy objects don't float. This is no different to the type of judgement we mention just above where we have to determine whether or not we are asleep or awake -- we check to see if things make sense. A critic of the foregoing might therefore feel justified in determining that there is nothing special about judging reality. That is essentially true but it is about the level of reality that we can judge that says something about just how real our inner reality actually is. This is in stark contrast to what is said by those that question whether or not consciousness, quintessence and of course our "inner reality", is of any more consequence than someone observing one's self (ie: self-awareness).[3]

To differentiate ourselves from a "dead" logical process, we have to each of us go into ourselves and analyse our own experience to discover our inner reality and then know that we are far from "dead". Only then can we know there is indeed something very much awake and real that is felt to be making these judgements and experiencing these sensations.

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[1] See "Philosophy Reference"

[2] See 7.3.2 "The Boltzmann Brain Alternative"

[3] See 5 "Debunking Quintessence"

We have now established that there is a Quintessential Entity residing within our bodies, something that we can summarise as our "Experiencer and Judge". As introduced prior, we call it *Quintessence* for short. To redefine Quintessence fully for our purposes, we give it to mean our Quintessential Conscious Awareness, the Sentient Experiencer & Sapient Judge within[1].

And yet, whether it is incorporeal or not, still remains to be seen.

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1.4.1 Two Possibilities

So now that we have identified a phenomenon we call Quintessence, let's go back to the question. What is the source of the Experiencer and Judge within? The prominent two opposing schools of thought are:

1/ Matter coagulated and evolved to the extent that when arranged in a certain way it can create, own and trap an experience.

2/ Something else, perhaps a super-entity, deity or a metaphysical other, provides the ability to experience within certain material bodies, or is itself the experiencer..

These two possible origins are pivotal to the case of evolution versus creation and consequently much of *Awoken Evolution* will focus on these possibilities.

Obviously "1" above is identified with the evolutionist school of thought and "2" with the creationist school of thought. For those that would like to interject at this point that possibility "2" is irrelevant without asking the age-old question "who created God?", we will address that later[2]. For now, let's take these on face value. Of these possibilities, the first one is no less extraordinary than the second. Whilst evolution is logical, it only seems plausible that it would create a biological machine. It seems much less plausible that such a machine would become sentient, would become my home, would become my own personal eye on the universe, and that such a machine could create an inner reality complete with inescapable pains and pleasures.

So if we simply evolved and there is no god, and if we are nothing more than the sum of our parts, then it seems we are witnessing matter evolve sentient properties that could be described as godlike within us. For example, if we were the only sentient beings in the universe, then for all the vastness of the universe, the universe itself would never have "known" it exists except that we witnessed it. Without sentience, the best a biological machine could do is analyse the universe in order to refine any interaction with it, but sentience is an extra dimension raising that analysis to the level of knowledge, a level that has its own area of study under epistemology as introduced prior.

Is this "godlike" quality of sentience everywhere? When we are asleep, we no longer witness anything. This life force lies dormant in our bodies until we wake up. The difference between us and any other matter is that we "awaken". Observation tells us that it should be possible to make any matter "awake" by simply ensuring it can process data. This is obviously so in the case of a computer but most of us would argue that the computer is not awake, just like the cerebellum in a human being -- that small part of the brain that continues to process while we are asleep.

Consider that we also awaken many types of matter by simply consuming them, especially as infants (given that this is when the cells in the cerebral cortex develop). One can take an apple and eat it and so the atoms in that apple are then awoken because they find themselves in an awakened host.[3] The apple consists of little more than dust, water and sunlight and yet those ingredients can and indeed do awaken. The ability to "experience" would therefore appear to exist in everything around us, but it lies dormant unable to recognize its "self" until it finds itself in something that has evolved the intellectual tools to analyse itself.

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[1] See also 3.1.2 "Consciousness Defined"

[2] See also 8.2.1 "Evolving Deities?"

[3] See also 3.2 "We Are What We Eat"

Perhaps the answer lies in the vividness of the experiences we "own" in that more evolved life forms appear to have proportionally more vivid experiences. For example, if we cut a limb off a tree, we know that it experienced something because it reacts by leaking sap and gradually sealing the wound. However, we don't imagine that experience to be particularly vivid. Similarly, the difference between being asleep and awake may simply be different levels of vividness.

Because all the immediate evidence points to possibility number "1" above (matter evolved the ability to experience), that is what science primarily advocates. Yet science has few answers for some vital aspects of our existence such as the origins of matter and energy and such as the inner reality we've called the quintessential experiencer. Perhaps that is because that would actually make possibility number "1" less plausible than creation. Let's look at some analytical questions that examine and expand on those vital aspects missing from the scientific picture..

1.5 Four Questions

Not only can we use questions as a means of enquiry, we can pose questions to test truths, especially the accepted truth of the nature of things. Using questions as a means of testing hypotheses is of course part of scientific method[1]. If we find those questions unanswered, we should doubt the validity of the truth we are testing[2] and look for new and different theories. For this reason, questions will be a fundamental part of our journey through *Awoken Evolution*.

First, there are the Primary Questions, such as: What is the meaning of life? Are we alone? What happens when we die? These primary questions are somewhat nefarious, perhaps even too simplistic, and worse, invite answers that are suggestive and manipulative.

Then there are the Secondary Questions that arise out of the primary questions such as is there a God? To what extent are we metaphysical? Is there a metaphysical element to our bodies that drives our free will and snares our experiences, that is part of something bigger and less transient?

Finally there are the Logical Questions that will follow. These are the questions that establish our basic concern with the logic of a material universe that doesn't seem to quite add up. These are the questions that give rise to the primary questions! To confront the incongruities that we feel intuitively, we need to challenge accepted material truths with some well chosen logical questions. That is to say that by concentrating on the logically answerable questions, rather than the primary and secondary questions from which they spring, we reduce the problem by breaking it down into manageable steps.

The main questionable truth about the nature of things that we expose to question is that accepted truth of our material existence. If we are only the product of the environment (matter, energy, and time) and we therefore only exist in a paranormal-free evolutionary existence as non-theistic scientific rationale supposes, then how do we answer these sample questions?

- Where did everything (laws of physics, energy and matter) come from?
- What is the source of my quintessential "Self-awareness" or my inescapable sentience? Ie: How and why am I me?
- What is the nature of my sapience?[3] Ie: Is it reasonable for me to accept "my" lot in life, to be judged, be able to judge, or have to take responsibility?

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[1] Scientific method refers to the body of techniques for investigating phenomena, acquiring new knowledge, or correcting and integrating previous knowledge. It is based on gathering observable, empirical and measurable evidence subject to specific principles of reasoning(ref given in source). A scientific method consists of the collection of data through observation and experimentation, and the formulation and testing of hypotheses(ref given in source).
http://en.wikipedia.org/w/index.php?title=Scientific_method&oldid=223233112
http://en.wikipedia.org/wiki/Scientific_method Feb, 2008

[2] a concept dealt with in much more detail later in 7.1 "Absurdity Reasoning"

[3] Sapience - the apparent ability to judge. Further reading...
http://en.wikipedia.org/w/index.php?title=Sapience&oldid=354824668

- Why is there so much that is improbable and unnatural? -- For example: Why are humans sadistic? Why are "we" alone in a universe that should have spawned so much life? Where is the missing link and how did it bridge the loss of a chromosome?

For the purposes of *Awoken Evolution*, we will refer to these logical questions as the "material questions". On first inspection, such questions may seem a little esoteric but they have been chosen because these material questions are considerably more practical to work with than the primary and secondary questions above.

Now let's expand on these material questions, posing them again in greater detail whilst adding related questions:

1/

Where did everything (laws of physics, energy and matter) come from?

- Where is the origin of the colossal energy and thus the sheer volume of matter that is required for a viable life supporting universe?
- Why is there time? Why do things occur at a rate? Why is there three-dimensional space?
- Where is the origin of the laws of physics permitting atoms to form such molecular variety that crystalline growth and thus life might evolve?

There will be those reading these questions aware of the common counter arguments, and whilst we intend to deal with these during the course of this text, some immediate rebuttal may help to keep those readers on board...

First we must acknowledge that some versions of the big bang theory attempt to establish that the beginning of time, ie: the beginning of the laws of physics and everything, all occurred within the big bang, before which there was simply nothing. Whilst the mathematical logic of this is apparently sound, such logic is unfalsifiable (cannot be made to stand up to test). Further, it is far from empirical and simply takes a mighty leap of the imagination and reason -- so much so that some would say this is just creation by a different name. Regardless of how far back we defer the bulk of the origins of matter, there always *had* to be something prior. Furthermore, depending on which version of the "big bang" theory one subscribes to, any spontaneous creation of energy contravenes the First Law of Thermodynamics[1], and if the reader subscribes to the version that all the energy was there but in some other form, then we come back to the original question of where it all came from!

Another common counterargument to such questions is posed by the card deck scenario whereby we should not throw the cards across the table and then marvel at any particular outcome just because its chances of occurring, if pre-chosen, were negligible. However, it is conceivable that the cards, were they thrown many many times, would never have created a situation where there was life, a concept which is impossible to conceive by us because we are "life". And so it is reasonable to marvel at the negligible chance that life exists and is aware of (and marvelling at) itself.

Lest it be thought we leave any stone unturned, it should be added that there are those who refer to Immanuel Kant's profound philosophical assertions about space and time to explain that it is possible time did not exist prior to the big bang. We address this conundrum later in the passage 2.1.1 "Big Bang or Big Splat?".

Perhaps the most respected counterargument is that these questions also apply to creationism -- where did God come from?. We will of course come back to that later as well[2].

Now to expand the second material question.

2/

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[1] See "References"

[2] See 8.2.1 "Evolving Deities?"

What is the source of my quintessential "Self-awareness" or my inescapable sentience? Ie: How and why am I me?

- To what phenomenon should I ascribe the ability to vividly own and experience my own reality?
- How do we account for the ownership of our sensations, especially the inescapable sensation of pain?
- How can we logically have compassion for humans and yet not for machines, buildings, and computers?
- What is the perspective that each of us uniquely gives to reality without which the universe would be unobserved and dead?
- How did I end up in this body and not that of anyone else? Is it reasonable for me to accept that my internal reality descended at random on this particular body from nowhere and will cease to exist entirely one day?
- Why am I here now as a human at this point in time? Why not sometime in the distant past when humanity was insufficiently developed to analyse? Why not sometime in a distant future when humanity is so well developed, there is no need to analyse? Why am I not an animal or insect as they are much more in abundance? Why shouldn't my reality find itself in the body of a dog, mayfly or tree? What chance should you and I participate in reality through the highest life forms we know of?

Once again we should look at the most common counterarguments. It may be said that the attributes we marvel at here might be expected from a highly evolved species. It might be argued that humans have evolved to such a level of intelligence because, apart from it affording us cleverness in attack and defence, it helps our survival to be able to elicit empathy and thus function as a caring team or tribe. Such depth of thinking may also have arisen simply because it is an attractive attribute for reproductive partners for no obvious reason (as we examine later in the Peacock's Tail[1] syndrome).

There are of course technical points that can be used to confront these counterarguments. This might include noting that the ability to analyse might even be counter-productive to survival. However, the main problem with this type of counterargument is that it examines the phenomenon from a *third person perspective*[2] concentrating on evolutionary analysis rather than what such intelligence means to you and I, thereby sidestepping the real questions about one's own inner reality. By being bombarded with answers to the question "how did this machine come into being", we are too easily sidetracked from the real question which is "why am I this machine"? We will come back to this and other responses throughout *Awoken Evolution*.

And now for the third expanded material question.

3/

What is the nature and origin of my sapience? Ie: Is it reasonable for me to accept "my" lot in life, to be judged, be able to judge, or have to take responsibility?

- How do we account for the "Sapient" ability to judge? Not just to know what is good and evil, but to be able to sense the difference, to have an emotive response to injustice?
- Is it reasonable for me to accept that I can be held responsible for my actions when I am locked into Cause and Effect?[3]
    - Why do we differentiate between man, animals and machines, and attribute responsibility for actions only to man? This is a view held by the world's legal

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[1] See 4.2.3 "Peacock's Tail syndrome"

[2] http://en.wikipedia.org/w/index.php?title=Narrative_mode&oldid=353900926#Third-person_view

[3] See later passage 2.3 "Cause and Effect v Free Will"

systems[1] and proven by its assumption that we know the difference between right and wrong reinforced by the metering out of "punishment".

    - Why do we encourage compassion and abhor selfishness?

- What is freedom of choice? Self-determination? Free will?
- What is it within me that is judging the reality around me? What is it within me that is asking these questions?

Counterarguments to metaphysical sapience tend to attest that the ability to judge between right and wrong is an evolved structuring of thought enabling society to establish responsibility and culpability and thus become more civilised. However, the ability to judge the difference between right and wrong at an intimate level is something which is intuitively felt, despite such a capacity being deeply shrouded in law. We don't consider that machines can wrong us. We don't normally have the emotive response of blame or the desire to punish and seek revenge whenever we are injured by a machine, nor even a wild animal, and yet when we are dealing with humans, the notions of good and evil, blame, punishment, satisfaction, responsibility are all richly interwoven into the highly logical machinery of society through its law.

As ever, evolutionary wisdom can provide counterargument through the apparent benefits of sapience to communities, if not directly benefiting individuals. Indeed, as we will examine throughout *Awoken Evolution*, it is difficult to conceive of how anything can intercede between the flow of cause and effect with any degree of sapient morality. However, we certainly do "feel" that we are exercising such highly principled judgements, and this is what we will look into in due course.

And last but certainly not least, the fourth expanded material question.

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Why is there so much that is improbable and unnatural? -- For example: Why are humans sadistic? Why are "we" alone in a universe that should have spawned so much life? Where is the missing link and how did it bridge the loss of a chromosome?

Here we touch on a few of those questions that may have scientific answers but answers that seem to be inadequate and make us think twice about whether or not we really are on the right track...

- How does evil square with survival of the fittest? To name a few extremes, the Roman circus, the Holocaust, snuff pornography, systematic torture -- we can explain some by war and the intimidation that goes with it, we can explain more by mental illness, but why should life that has evolved by chance exhibit such capacity for sadistic extremes? How can atrocities be "atrocious" if all we are is animated, semi-intelligent flesh and blood?
- If everything in the universe slides towards entropy[2], decay and disorder, then what causes emergence[3]? What caused that original leaning towards order out of chaos that "motivates" evolution, that gives us the yearning we now have to progress?

If the universe supports billions of planets, why has there been Zero hard evidence of any contact from anyone else in the universe? [4]Of course there can be noted many improbabilities when looking into astrophysics and no doubt each improbability has an explanation, but we should become suspicious when 50 years of SETI (search for extraterrestrial intelligence[1]) has turned up nothing.

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[1] See 6.3.1 "Legal Obligation to Believe"

[2] Entropy - "The tendency for all matter and energy in the universe to evolve toward a state of inert uniformity" -- this is the most relevant of 5 different meanings given for the word -- Reference: The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2003. Published by Houghton Mifflin Company. All rights reserved.

[3] http://en.wikipedia.org/w/index.php?title=Emergence&oldid=380408166

[4] See later 2.1.2 "Alien Absenteeism"

Another improbability is the centrality of our existence. Why do we find ourselves at the centre of an expanding universe? No matter what direction we look with our Hubble telescope, we see red shifted stars at the 14.5 billion-year-old range giving us our theory that this marks the age of the known universe[2]. However, this would indicate we struck the bullseye of chance location[3].

How many coincidences and improbabilities do we need before we start to re-examine our theories on the nature of the universe?

- Why are there credibility gaps in evolution? Where did the first self-replicating cell come from? Why does all life on earth apparently stem from just one original cell? How did humans bridge the "missing link" to make the species jump from apes?

  Whilst species divides have been adequately explained by geographical separation etc, some species jumps, most notably that between humans and our nearest animal cousins, chimpanzees, actually suffered a change in the quantities of chromosomes. The missing link had to somehow bridge this quantum difference. Notwithstanding that this can be achieved by fused chromosomes (gene groups), one wonders how such oddball offspring, such "freaks", could mate and continue the anomaly[4].

Undoubtedly, in this question more than any preceding, there are competent scientifically based answers. For example, we humans do not have a complete monopoly on "evil" -- Cats, killer whales and even dolphins[5] sadistically play with their prey. On the second point, many would argue that there is evidence of extraterrestrials (albeit with no hard evidence), and on the final point scientists would argue that the theory of evolution is surrounded by much evidence and those areas lacking strong evidence are minor.

Naturally, we will confront these counterarguments in due course. For now, perhaps we can conclude this last material question by noting that the answers we get from conventional science seem incomplete, leading to yet more questions.

And so these are the questions that challenge the rationale of evolution based theories of how we came into being. Perhaps it is suffice to say that it seems the nature of life raises a lot of questions, but then it is surely right that we should expect adequate answers to these questions before we put our faith in science. Even so, if such answers are inadequate at present and unlikely to be improved in the foreseeable future, then what can we glean from these questions right now? How can such questions be used to further our quest for knowledge?

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[1] eg: http://www.bbc.co.uk/news/science-environment-11041449

[2] See http://en.wikipedia.org/w/index.php?title=Hubble%27s_law&oldid=336809399 (Hubble's Law) and http://en.wikipedia.org/w/index.php?title=Age_of_the_universe&oldid=339584985 (Age of the universe)

[3] As a starting point, see: http://en.wikipedia.org/w/index.php?title=Shape_of_the_Universe&oldid=339716937 (Shape_of_the_Universe) which leads to http://en.wikipedia.org/w/index.php?title=Observable_universe&oldid=340980538 (Observable universe) which states: "Assuming the Universe is isotropic, the distance to the edge of the observable universe is roughly the same in every direction-that is, the observable universe is a spherical volume (a ball) centred on the observer, regardless of the shape of the Universe as a whole. The actual shape of the Universe may or may not be spherical. However, the portion of it that we (humans, from the perspective of planet Earth) are able to observe is determined by whether or not the light and other signals originating from distant objects has had time to arrive at our point of observation (planet Earth). Therefore, the observable universe appears from our perspective to be spherical. Every location in the Universe has its own observable universe which may or may not overlap with the one centred around the Earth."

[4] See also 4.2.3.1 "Common Ancestor"

[5] http://www.telegraph.co.uk/earth/earthnews/3323070/Killer-dolphins-baffle-marine-experts.html

1.6 What's in a Question?

We seem to have asked a lot of probing questions in the last passage. Can these questions begin to establish credibility gaps in the accepted wisdom surrounding our knowledge? Of course that was indeed the point of asking those questions. If theories and explanations are put to us that are incomplete or lead to increasing complexity, paradoxes and absurdities, then we should have cause to doubt the integrity of those theories and explanations.

The problem we now face is that we can't easily answer those probing questions either. The difficulty is that those questions arose out of theories and explanations that have arguably taken us in the wrong direction in the first place. If we wish to progress further, we need to reverse up and think about a question we can answer.

Douglas Adams' book "The Hitchhikers Guide to the Galaxy" concludes that the more important task for the supercomputer "Deep Thought" was to know the question[1]. Perhaps we should pay tribute to the underlying wisdom in this wonderfully allegorical fiction. A sensible answer cannot be determined without first knowing the question.

It is very difficult to draw a conclusion about something which exhibits no material, empirical and least of all provable properties. It is even harder to draw a conclusion when we don't even know precisely what question we are trying to conclude. Yet this is the single most important topic we must address as human beings. We need to think about the question we originally aspired to answer..

1.6.1 Neurally Bound Consciousness

And so it has come time to properly examine the question we aspire to answer. In the introduction passage 1 "Departure Lounge", we broached a concise version of the question when we asked "*Is consciousness Neurally Bound or is there a missing ingredient hitherto unexplained?*" In short, is there more to life than meets the eye?

To describe the accepted scientific position, we will use the term *neurally bound consciousness* because science considers the seat of consciousness to be a phenomenon that wells from the physical plane, specifically from the matter and activity of the brain.[2]

To describe the metaphysical position, that the seat of consciousness springs from some phenomenon that is beyond known physics, we will use the term *incorporeal*.

With this terminology, now we can look at the two possibilities again asking which of the following is more true:

Is the fire of consciousness, the vivid experience of the inescapable ownership of sensations either:

- The result of neurally bound consciousness? A phenomenon resulting from the level of complexity of our brains?

Or:

- The result of some external, incorporeal experiencer? Ie: Are our bodies the unwitting vessels of a higher consciousness?

We didn't simply ask this of consciousness, nor even self-awareness. We called it the "fire of consciousness" and then qualified it as the "vivid experience of the inescapable ownership of sensations" (sentience). Had we simply brushed all that aside and called it "consciousness", we could be forgiven for thinking consciousness is simply a more alert level of neural activity or, more simply put, the difference between being awake and asleep.

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[1] http://en.wikipedia.org/w/index.php?title=Phrases_from_The_Hitchhiker%27s_Guide_to_the_Galaxy&oldid=342477014#Answer_to_the_Ultimate_Question_of_Life.2C_the_Universe.2C_and_Everything_.2842.29

[2] See also 3.1.2 "Consciousness Defined"

And so some find it entirely natural that we are no more than we appear to be. Others find it entirely incongruous. When we look at all our idiosyncrasies and the strength of our sensations, the sense of being or existing, it can be most counterintuitive to conclude our consciousness is nothing more than an artefact of mutations arising from energy, dust and time.

Something that is true of both possibilities is that neither can be proven and yet many tend to polarise themselves to one or the other extremes with great conviction. Understandably, a large percentage of us, quite probably the majority of us, refrain from taking sides. Those that are in that percentage don't wish to be branded "undecided" or "agnostic", but often prefer to simply withdraw from the argument altogether. Unfortunately, when those in that large percentage are put on the spot by hardliners of either persuasion, be it theists or non-theists, religious or atheist, they find themselves defenceless against the charge of denial, being illogical, of being unthinking uncommitted escapists. *Awoken Evolution* is not so much targeted at proving the case for creationism as proving the case for moderation against theistically averse science, because that is the most difficult "belief set" to deny given that atheistic science lays claim to so much "evidence".

- So this is the question that we will base our judgements on. We will summarise the multiple choice question down to one simple true or false question as follows: "*Is consciousness neurally bound?*"[1]

This is of course the accepted non-theistic scientific position and the aim of *Awoken Evolution* is to prove that this is an unsound proposition. Ideally, we would prove this proposition is simply untrue through evidence to the contrary, but given the obvious difficulties identifying empirical evidence in matters "of the mind", we will concentrate on revealing the absurd consequences that extrapolating such a proposition will lead to.

This won't be the only question we seek to answer but it is the main one. What we decide to do with our judgement and Free-Will is another matter, but for now, that is about as simple as we can make our question.

1.6.1.1 The Mechanics of the Experience-Moment

Let's look at the mechanics of the *fire of consciousness* as qualified in the last passage. Let's explore the *experience-moment* in this scenario, find out where it is occurring, and see what we can conclude.

First, let's define the *experience-moment* as the moment when we know we are experiencing a sensation. This title of experience-moment seems to be the term that best describes the moment of "vivid experience" as we sensate, the moment of consciousness that belongs only to the sensater[2] and no one else. As the saying goes, "we live in the moment", that infinitely small point in time between the future and past during which we are conscious of feeling the flow of time and the sensations that reach us.

Not only do we feel sensations during this moment, this is the moment in which we feel we strive, the moment we exercise Free Will to intervene between cause and effect. We come back to the details of "*Free Will*" later[3], but for now we should take a moment to reflect on the paradox created between Free Will and Cause & Effect. Where everything in the future is a result of things that happened in the past, there can be no *Free Will*[4].

At this point, it is something of an interesting aside to mention *Zeno's Paradox Of Halves* -- where in theory and in mathematical purity, we should never be able to travel towards and reach a fixed destination because once we are halfway there, we can halve the distance remaining. We can then halve the latter half of that and so on until we have an infinite number of increasingly small halves, each taking a finite amount of time to travel. Technically, it would be impossible to arrive at a destination unless we were moving towards a point just beyond it.

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[1] See earlier passage 1, "Departure Lounge", paragraph 3

[2] The being that owns the sensation. See also 3.1.2 "Consciousness Defined" where we define this word

[3] See 2.3 "Cause and Effect v Free Will"

[4] This is Determinism, and is something else we will come back to later.

Finding the experience-moment or the point at which we experience Free Will is a little like Zeno's Paradox of Halves. We know we don't experience Free Will in the past and we know we don't experience Free Will in the future, and it doesn't matter how small we presume to chop up the passage of time between the past and future, we simply cannot define a point in time where we experience Free Will.

Whatever the terminology, there is no room within the flow of Cause and Effect for us to experience the use of our "will" or indeed to experience anything at all. It seems there is this vanishingly small point in time where we are able to "feel" experiences and "feel" the making of choice. Indeed, it is as if we can "feel" the past touching the future. This feeling is not a simple mechanical "feel" of nerve rich skin touching a textured surface, but it is the registering of a feeling upon something that is capable of more than preprogrammed reaction.

Here again we can divide the possibilities into two schools of thought.

- The evolutionist may explain this feeling in terms of anticipation and recall. We learn to anticipate events that require choice by memorising procedures, scenarios and past reactions. When we access these memories to make a choice, this creates the feeling that we are making a choice. We continue this theme below.
- The creationist may explain that the surface upon which the experience-moment is ultimately registered is an incorporeal entity (eg: soul), and Free Will is thus divine by nature.

Both views have problems. The problem with the creationist view point is that it is simply unsupported by empirical evidence. The problem with the evolutionists viewpoint is that we have circular thinking supposing that the experience-moment can be sensed thereby creating another experience-moment which in turn is also sensed thereby creating yet another experience-moment. Like *Zeno's Paradox of Halves*[1], we never really reach a point where we can say the experience went from simulated/imagined to the reality of the experienced event as we all know it to be within our own minds.

Leaving Zeno to one side, how can the vitality of such experiences exist within a molecular structure called a brain anyway?

When we consume edible matter in our infancy for example, cells containing complex carbohydrates, fluids, trace metals and so on, will eventually become the building material of the brain[2]. Reminding ourselves that all the building material of the brain comes from elsewhere, we should agree that any atoms that find themselves in our brains can become the recipient of, or participate in, an experience-moment. What about that same matter before it was consumed? We can purée a tomato before eating it -- so if tomatoes can heal small abrasions (scab), it's reaction proves it is capable of experiencing destruction, and yet can it be the recipient of experience? Can there be any sensation of pain materialising on something inside of it? The answer is not so straightforward. We have no way of knowing whilst it is still in the form of a tomato, but if its atoms become the appropriate parts of our brain, then the answer is undeniably "yes".

Indeed, it would seem that matter in general can be the seat of consciousness thereby harbouring experience-moments, but what is it that associates our sensations with ourselves? Where is this seat of consciousness? Where are these experience moments to be found?

Let's look at three major possibilities expressed in the following three points...

Point 1: Can Memory Matter be the Seat of Consciousness?

If it were an acceptable truth that matter alone is capable of owning and retaining experience, then we must consider awkward conclusions that the ability to experience is not just limited to awakened human beings, but could be in anything. It could even continue in the matter derived from our human remains except that such experiencing is no longer contributing to memory. As a premise that we will come back to in more depth later in this passage, we don't normally accept that inanimate objects (including unconscious people and human remains) can be the recipient of, and "own", such experience-moments as pain. Unfortunately, if we don't agree with that premise, then we cannot accept that matter alone can harbour and own experience. This is a problem because then we have to ask where experience goes when a person is in a deep sleep, when unconscious, and in particular when clinically dead and later revived.

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[1] See prior in this passage, paragraph 4

[2] See also 3.2 "We Are What We Eat"

We begin to see that matter alone is not capable of harbouring experiences. However, before concluding this, we should briefly address the possibility that the experience is "owned" by the memory. Matter appropriately arranged is capable of harbouring memories, just as it is on a disk, in a hard drive, or in neurons. The actual experience (the conscious sensation) is an experience-moment that is created and "owned" by "you" at the point of stimulus. However, the cells upon which those memories are etched do not contain the experience itself. When we access those memories, it is like playing back a DVD. The DVD obviously does not contain the experience, nor is it capable of generating an experience-moment, but it does contain the memory of a film which, when played back, can trigger an experience-moment within us.

How do we know the experience is not actually imprinted on the neurons of the brain? Why do we presume quintessential conscious experience is not simply memory? Recalling a painful experience, no matter how unpleasant the recollection may be, does not actually regenerate the original pain. The recollection can evoke strong emotions, just as the emotive communication of pain from one person experiencing pain to another, but the actual pain is not regenerated. It is from this that we can deduce memories do not contain pure experiences! It may be noted that we're not talking about the interaction with memory or formation of memories, at this point we are only talking about experience being within matter, thereby being memory.

Conclusion 1:

> It is thus reasonable to entertain the conclusion, for the time being, that consciousness is **not** a property of matter alone.
>
> When we say "for the time being", we should keep in mind that we will be expanding on this in the passages 3.2 "We Are What We Eat" and 7.2.3 "The Queen Cluster theory".

Point 2: Can Interaction with Memory or Matter be the Seat of Consciousness?

Later, we will look at pure dataflow but first, in this point we will consider the interaction of data with memory..

Before continuing, we should remind ourselves of the earlier statement[1] that the evolutionist may explain conscious feelings in terms of anticipation and recall or the Interaction of Sensation processed with Memories.[2] After all, one of the most consistent occurrences corresponding with any intense sensation is to observe that we remember the sensation. Generally, a sensation that isn't remembered is a sensation that can be reasonably presumed did not exist. In this context, we can say that an experience-moment occurs at the point of the creation of memory, and to some extent resulting from retrieval of memories that are required to understand the sensation.

What's wrong with this non-metaphysical explanation of the experience-moment?

The problem comes when we consider raw sensations and how we experience them. Pain is an especially vivid sensation that we can all relate to. We can describe the process of experiencing pain as being one where sensations are received through nerves as follows: Without either being subject to processing (other than the conveyance of the sensation) or being interpreted by comparison to memories, (you don't have to have had pain before to experience it) such sensations as pain can imprison the consciousness of the experiencer and envelop that consciousness in the inescapable act of experiencing the sensation.

In other words, to experience extreme discomfort from a broken leg, we do not need to have had a broken bone before, nor indeed would we have needed to have had any intense pain before.

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[1] See prior in this passage, paragraph 8

[2] See also 1.6.1.2 "Analysing Experience in the Third Person"

What about the experience moment simply being in the formation of memory itself and thus not dependent on interaction with prior memory? What if consciousness is just a byproduct of the formation of memory? This is more difficult to debunk but can be put aside when we consider, as a convenient example, Alzheimer's. Do we not bother to alleviate the suffering of an advanced Alzheimer's sufferer just because we know that his or her pain can't be memorised?

> As something of an aside, the astute reader might note this is a stunted argument insofar as is the complete incapacity for the brain to form memories is more or less the same as the inability to "register" sensation, and so someone might indeed hypothetically conclude that despite appearances, the subject is not consciously experiencing. However, if we see an Alzheimer's patient wincing or displaying symptoms of pain, we can reasonably deduce that a conscious experience of an unpleasant sort is occurring, even if it is not an experience that is being laid down in memory.
>
> The best way to address this grey area is to note that memory formation is either a physical/chemical change or it is "dataflow". We address dataflow within the next point following, titled "Point 3". Finally then, we must address memory formation as a physical/chemical change, and look to see if conscious experiences actually occurs within this change. We must engage deeper arguments where we hypothetically put our own consciousness into that moment. Could we reasonably abrogate our very own feelings of awareness, experience, pleasure or pain into the process of physically/chemically changing some molecular/atomic structures? Consider if that were true, that would mean a conscious experience should be felt by something whenever we heat or cool things, whenever we create a chemical exchange such as charging or discharging a battery.
>
> Someone may remain unconvinced and hold to the notion that physical/chemical change occurring in memory formation is indeed possibly the seat of conscious experience, but if it is, then we need to ask who or what had that experience?
>
> This is when we need to invoke the principles of where we are and who we are (see the passage 7.4 "The Problem of Unpredictable Emergence") and consider ourselves and our true inner experiencing self as the potential recipient of experience when something is heated, cooled, charged or discharged -- ie: why aren't we ever part of that experiencing scenario? There has to be ownership (in that I own the conscious experiences occurring within my body, and you in yours) and if we simply conclude ownership is randomly affixed to cells, molecules and atoms within, then we must consider it is possible to continue to experience after death, just by applying similar physical/chemical changes to the remaining matter. In short, we are racing headlong towards the absurd[1].
>
> For now, we should retrace our steps a little and concentrate on the simpler aspect of interaction with memory...

Another good example of experience without memory is the knowledge that pain can be sensed by a newborn infant, or even in all probability by a foetus after 30 weeks[2]. Pain experienced in infancy is usually completely forgotten, but this does not mean the experience never occurred, and it certainly doesn't give us the right to allow or induce such pain simply because we know it will be forgotten.

And so, if we don't have to have had pain before to experience pain, and if we can have experienced pain without remembering it, it seems reasonable to conclude that memory interaction is not a fundamental part of the ability to experience raw sensations. As might be expected, we come back to this point later in greater depth, but for now let's make that conclusion...

Conclusion 2:

> In general then, the experience-moment does not necessarily rely on memory data interaction.

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[1] a concept mentioned prior and dealt with in much more detail later in 7.1 "Absurdity Reasoning"

[2] http://en.wikipedia.org/w/index.php?title=Neonatal_perception&oldid=355280234

> This is covered in more detail in the passage 3.2.2 "Sleep, Joy and Suffering" where we note there are many examples of memory creation that are not associated with actual experiences.[1]

Point 3: Can Dataflow be the Seat of Consciousness?

We are left with raw experience, specifically of pain in the above example, requiring only communication or dataflow, and not requiring processing as an intelligent assessment of the sensation.

Now, let's consider the dataflow that we can be fairly confident exists within the awoken brain. Let's define this dataflow as a mixture of electronic and chemical communications that carry sensations around our nervous system and brains.

Raw, unprocessed *dataflow* could be linked to the kind of conscious raw experience that we seek to identify, and that may be the route towards explaining consciousness scientifically. Indeed, as soon as we stop or severely impede dataflow (as we reasonably presume occurs in deeply anaesthetised patients for example), then the experience of pain stops with it. Although we have established in our earlier premise (in Point 1) that matter alone has little to do with experience, for example that unconscious humans and remains do not feel pain, clearly matter is required to be arranged in structures that allow dataflow.[2] Damaging the material structure in which the experience is occurring is a way of disrupting dataflow. In other words, rendering a human or animal unconscious will obviously cause pain to cease. If the damage is reversible or if the destruction is temporary (as in the case of anaesthesia, or in the more dramatic examples of coma, near-drowning or heart-stop cardiac surgery), then the ability to experience can resume as soon as the material structure allows dataflow to resume to a reasonable level.

The problem with using pure dataflow to scientifically explain consciousness as a neurally bound phenomenon is that when we look at the experience-moment, we need to ask why dataflow in other parts of the nervous system, including the cerebellum, the spinal cord, the solar plexus, etc, do not create an experience-moment. That is to say that dataflow is frequently occurring in these areas when a person is unconscious or is comatose, but the dataflow in itself does not give rise to an experience-moment.

Conclusion 3:

> It is thus reasonable to conclude that dataflow in itself is not the seat of an experience-moment.
>
> As with the preceding points, this too is further expanded in later passages, especially the passage 6.1.2.3 "Catacombs of Consciousness".

Now that we have also relegated matter and memory interaction to being improbable locations for an experience-moment, what is it that is the harbour of experience-moments?

It would seem that to pursue rational *Neurally Bound Consciousness*, we would at least have to say that the experience-moment requires a combination of these things. That is to say that whilst dataflow is frequently occurring in even unconscious individuals, at least the dataflow clearly needs to act on some part of the brain to incur a conscious experience-moment.

This would indicate there is a specific part of the brain that when switched off, prevents consciousness and thus prevents the experience-moment[3]. It takes dataflow acting on specific matter to induce an experience-moment and therefore dataflow is just one of two major ingredients with the other being some kind of special matter that can register, or experience, the event.

This of course raises awkward questions about how the process is switched on and off during sleep, unconsciousness and death. If consciousness were as simple as taking some matter capable of intelligence and injecting it with sufficient dataflow, we could force an experience-moment in an unconscious person by forcing dataflow, and we could simulate consciousness in computers (which is of course something we have already touched on[1] and will examine closer all in good time[2]). What more can we glean from our conclusions?

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[1] See also 6.1.2.3 "Catacombs of Consciousness"

[2] See also 3.2 "We Are What We Eat"

[3] And we later address this in more depth in 7.2.2 "The Pineal Gland"

To summarise:

We have now narrowed down the minimum mechanics of consciousness required for an experience-moment as in the "experience" of pain (keeping in mind that pain is the minimum experience under our analysis). So the minimum mechanics for an experience-moment is dataflow interacting with a material structure that will support it.

This leads to the following questions:

- Where is the Data flowing to?

  It seems logical that there must be a target within the brain, perhaps a neuron cluster acting like a Queen Bee in a beehive of lesser neurons that becomes the destination of experience-moments such as pain[3]. We know this because unconsciousness does not affect all parts of the nervous system, because parts of the nervous system continue to function and carry dataflow when a person is asleep or unconscious. If we identified and isolated such neurons, we must then ask about the inner processes within such a neuron cluster -- ie: where does its inner data flow terminate? And again this becomes recursive in a way that leads to yet another reflection on Zeno's Paradox of Halves[4] because, as noted just above, we still must ask upon what part of a neural cluster, or in which part of a neuron, or on what complex carbohydrate or molecule, are experience-moments such as pain registering and terminating at?

- Must there be data flow into memory for it to be valid?

  Even though we have concluded that memory interaction is not essential for an experience-moment, perhaps the creation of memory is essential to generating an experience-moment. Assuming that some small element of memory interaction is necessary, perhaps memory is the only thing that makes the pain individual. That implies there is no difference between my experience and someone else's except that I can only recall experiences peculiar to myself.

  What happens with a person who suffers pain and then loses his memory? Does that invalidate the experience-moment in the first place?

- Must the content of the dataflow be relevant to survival to allow an experience-moment to occur? Ie: Must the dataflow contain information that either conflicts with, or is harmonious with, the individual's survival and reproductive ability in order that the experience be validated?

  Whilst generally we agree pain serves the purpose of avoidance, learning, limiting and cautioning, the experience itself can be independent of meaning, such as in the case of migraine or phantom limb pain in an amputee. Thus the vivid reality of pain is not directly linked to survival. A dataflow that can occur without any source (as in phantom pains and migraines) might indicate some kind of oscillation (ie: electrical vibration) as in tinnitus[5]. However, once again this indicates there would be a target, some neural cluster upon which the experience-moment was registered.

- Does this mean that any dataflow interacting with appropriate matter can harbour an experience-moment as we know it?

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[1] See also 1.2 "Questioning Experience"

[2] See also 2.2.1 "Experience and Computer Comparisons"

[3] See also 7.2.2 "The Pineal Gland"

[4] See prior in this passage, paragraph 4

[5] Raytheon has experimented with pain inducing rays (for crowd control etc) which tends to bear out this oscillation concept http://en.wikipedia.org/w/index.php?title=Active_Denial_System&oldid=342188769

- Does communicating that dataflow by different means such as music, art[1], prose, speech etc allow us to communicate emotion and the awareness of pain (even though we can't impart the pain itself as previously discussed), and therefore allow that dataflow and experience to move from individual to individual?
- Given that consciousness requires not only a material structure but also dataflow, does that mean the conduit of such communications (music, art, speech, literature) can also be an integral part of the experience-moment?

  Take note again of that last point -- given that conscious experience requires dataflow in addition to a material structure, any system that is capable of communicating sensation is potentially participating in an experience-moment, and thus contributing to consciousness. Does this inclusion of communicable sensations mean that the experience-moment is more of a result of dataflow? Such resulting theories may seem attractive, but they are conflicted by the knowledge that raw pain cannot be communicated between people, even when using music, art, prose, etc, and thus a true experience-moment does not span wider dataflow. Indeed dataflow may be the lesser part when we consider that even nerves are only relaying signals. It is the registering of the dataflow signal or sense-data (as Bertrand Russell termed it[2]) on the Appropriate Matter ("queen bee" neuron cluster or whatever) that appears to be the seat of the experience-moment.

To reiterate the importance of dataflow in consciousness, we should backtrack a little. Of course, one may quite rationally disagree with the earlier premise near the beginning of this passage[3] (as summarised in "Conclusion 1") that neither inanimate objects nor matter can harbour experience. It is entirely logical to suppose that consciousness is indeed materially bound and so conclude that "my" pleasure and "my" pain is "my" experience because that experience is bound to "my" matter. However, once again that logic then raises the awkward possibility that any appropriate matter can harbour experience-moments leading to consciousness when simply stimulated with the right type of dataflow. Unfortunately for the proponent of such logic, this conjures up an uncomfortable reality where there is a commonplace possibility of ghostly experience-moments in human remains and even in the animals, insects and plants that consume such remains. Worse, the latter could even be "your" experience-moment some day after your mortal body ceases to function where such experience-moments are bound to the remainder of your matter. This is the subject of experience-ownership that we also examine more thoroughly later[4].

There is a conflict here. It seems to be irrational to conclude that one's individually owned conscious experiences could persist once our cells are decimated at death, and yet if consciousness is materially bound and not metaphysical in any way, then the uncomfortable conclusion is that some kind of reincarnation of one's same conscious experiencer must occur in any living being that inherits or consumes those atoms. If matter harbours experience awaiting revival, and if that matter defines the ownership of that experience when revived as a conscious experience-moment, and if that matter once belonged to you, then "you" will potentially be the future owner of experience-moments bound to that matter.

And yet, surely such a proposition is quite absurd. When we inhale, our body's will definitely assimilate some atoms from other cremated individuals. When we consume animal flesh, our bodies will assimilate atoms and molecules from those animals. Does their consciousness then awaken in our bodies? What about when we excrete our own atoms during the normal process of cell replacement -- does some part of our consciousness reawaken in other animals that consume these atoms?

So, is it therefore time to consider that it is simply less absurd to conclude that our experience-moments are not acting on physical matter, but are acting on a metaphysical plane instead? Of course that is the proposition that *Awoken Evolution* seeks to provide credibility for.

To summarise...

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[1] See also - "--- ---"

[2] http://en.wikipedia.org/w/index.php?title=Sense_data&oldid=375645777

[3] See prior in this passage, paragraph 18

[4] See also 2.2.1.2 "Experience, Ownership, Sentience"

> EITHER --
>
> Anything that communicates sensation, any material or system that is capable of harbouring experience, is participating in an experience-moment and thus consciousness is a neurally bound event in combination with external stimulus with all the uncomfortable logical consequences that follow,
>
> OR --
>
> The fire of consciousness, the vivid experience of the inescapable ownership of sensations and the consequences of our judgements, is **not** the result of neurally bound consciousness but **is** a phenomenon resulting from some additional incorporeal experiencer.

It should be kept in mind that we are only introducing these points at this time. We will decide what is more probable and make more definite conclusions as we progress towards the use of "Reductio ad absurdum"[1], as touched on earlier.[2]

Later, we will also look at something philosophers call *Qualia*[3] which means much the same as the phenomenon we call the "experience-moment". In the next step, we will look at consciousness as a more personal experience...

1.6.1.2 Analysing Experience in the Third Person

Human beings are so much easier to understand and explain when we treat them as abstract objects and analyse them in the third person. That is to say, when you and I (the first and second persons) analyse experience in other people (the third persons) without the clutter of our own emotional responses, we generally find consciousness to have logical origins and cause explainable reactions. However, to analyse one's own consciousness in the third person is potentially an act of philosophical illeism(referring to oneself inappropriately in the third person[4]) resulting in the study of a depersonalised *abstract* that is simply irrelevant.

For example, we know and agree that people evolve and attain certain personality characteristics, and we can explain why in terms of survival and cultural cohesion et cetera. However, when one is analysing oneself, it is quite different. Experience is very real within you and I, and characteristics are not abstracts when they are emotions welling up within us, immensely personal to us, part of us.

A good example is "upset". People become outwardly upset when trying to come to terms with something bad and this can be explained on an evolutionary level by noting, for example, the benefit achieved from uncontrollably seeking assistance from others. Removing the cold abstract analysis of the third person, do you remember the last time you were upset? Of course we all do. It's a very personal stimulus that leads us to be insulted by any attempt at depersonalisation.

Whilst the "upset" stimulus has a lot to do with memory interaction (remembering a deceased relative perhaps), it is the reality of interaction within the "now" inside of us that is undervalued in any abstract scientific review of the process. What is the memory interacting with? In the abstract, we just see explainable memories being recycled to create yet more explainable memories that perhaps aid the individual coming to terms with a trauma. However, there is a "now" within you and I that experiences this.

Such upsets are an example of a very real *experience-moment*[5], that we can all identify with, an example of an experience that does not take from any direct external stimulus but rather one that is created internally by accessing memory. Such examples are useful as they personalise the experience, taking us away from an abstract analysis towards the individual "real" experience that occurs within us.

When analysed logically in the third person, the "upset" becomes an entirely different abstract from the very personal experience of grief and sorrow. These become two different things. It is that personal experience that allows us to examine that extra dimension within us. It is that personal experience that is so vital and real to the individual.

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[1] See 7.1 "Absurdity Reasoning"

[2] See 1.3 "Is True Sentience Possible?"

[3] See also 8.2.2 "Qualia & Sentience"

[4] http://en.wikipedia.org/w/index.php?title=Illeism&oldid=379706231

[5] As examined previously in 1.6.1.1 "The Mechanics of the Experience-Moment"

Whilst it is true that psychology does deal with the science of emotions, again it is abstract. It's place is assured because it is medically beneficial. It is a medical diagnosis and can form the basis of a medical solution. Yet, such analysis is again removed from the reality of the experience. Objective scientific analysis of consciousness is useful for medical psychology, but when observing reactions and concluding evolved causes, when observing your upset and seeing it as a useful cry for help, it overlooks the elephant in the corner that is your reality, your eternal experience-moment as you experience upset and other stimuli firsthand.

Thus, we will be looking at experience throughout *Awoken Evolution* in the context of its impact and interaction with the first person experiencer, ie: in the context of its impact and interaction within you.

1.7 To Conclude the Questioning

So to roundup the questioning passages, we introduced experience and asked what it was acting on. We then looked at material questions in that they give us quandaries that lead us to doubt straightforward scientific explanations for life. We then examined the mechanics of "experience awareness" and found that consciousness is not to be taken for granted. Finally, we looked at personal experience, to differentiate between abstract third person analysis of experience and the vitality of personal experience.

Once we start asking questions like this, we open Pandora's box to see the universe in an entirely different light. For example, clearly the universe itself supports consciousness. This is regarded as a-priori knowledge as we are evidence of it, but we don't know if our individual consciousness is an accidental deposit of that conscious potential or something else. How deep does Pandora's box go? These questions lead to more questions and conundrums such as the "problem of location". Why do "I" literally "find myself" alive and awake trapped in this body, not somewhere else in the universe, not in your body for example? Consciousness is something which seems too significant to just spontaneously "start" in each of us individually. We ultimately confront this "problem of location" in the passage 7.4 "The Problem of Unpredictable Emergence".

To summarise, not only is the universe a truly strange place, consciousness is also a truly profound phenomenon. We haven't ruled out the possibility that it is somehow the result of material phenomena but, as argued in all the preceding, such a simple explanation seems unlikely if not even absurd. If one prefers explanations that are devoid of the metaphysical, a significant alternative scenario is that we are each the momentary expression of a universal consciousness, but even that involves metaphysics beyond the mere physical realm. Whether consciousness is provided by higher orders, deities, or just a preternatural property of evolved matter in an infinite universe, it is not something that is easily dismissed as just part of animal intelligence.

Of course we will continue to ask provocative probing questions insofar as they can continue to present undeniable challenges to conventional scientific wisdom, but now we will shift the focus to exploring the possibilities raised by the prior material questions..

2 Let The Journey Begin

On our voyage of discovery, we will not only be looking at accepted truths from different perspectives to reveal new ideas and truths, we'll also be looking at how presumptions and assertions masquerading as truths can prop up insubstantial theories and mislead us.

In the matter of the scientific treatment of the subject at hand, there is surely no intention to mislead but rather just a lack of motivation to ensure that the reporting of facts is subject to a level of moderation that is commensurate with the weight of the evidence that supports them. Theories are commonly broadcast as if they were "truths" to be trumpeted in a deceptively confident manner, citing knowledge and evidence that is not necessarily as foolproof as the commanding intonations of their delivery would have us believe.

Evolution is an obvious case in point. On the face of it, the theory of evolution seems robust enough with all the evidence from archaeological digs and DNA relationships, but can we be so certain of this robustness when we drill down into the less certain areas of theory regarding the first replicating cells and species divides? Can we be so certain when we look at the intricacy of an eyeball with its iris, lens, and retina all fed by an intricate web of blood vessels? Can we be so certain when we remind ourselves that the dinosaur bones we look at in museums are often well over three quarters plaster?[1].

It may come as a surprise to know that, as the author, I am convinced. Undoubtedly, evolution is the most obvious conclusion to be drawn from the evidence in front of us. It is only when the theory is examined for relevance to the bigger questions that we wonder if there might be holes in the theory itself. That is to say, in the context of attempting to explain consciousness, how everything came into being, how the emergence of matter and energy began and how our individual consciousnesses descended on this particular lifeform, we have to wonder at whether or not the theory is even relevant. It is only this observation that leads to a re-examination of the theory itself.

The majority of intellectuals surely do keep an open mind. Many scientists, biologists and naturalists, such as Darwin,[2] found themselves compelled to confront the truths in evidence before them even when it conflicted with their intuition, and so at best they remained open-minded or agnostic[3]. Science, even in its purest logical form, is perhaps unwittingly biased towards finding a knowledge that explains our existence in terms of lesser components and it is this "reductionism" that inherently opposes faith-based theories of creation. The very principle of evolution is based on theories that seek to explain how there is the fabrication of "something out of nothing". However, all the evidence suggests that there was always "something". If there was never any "nothing", then there was no fabrication, just redevelopment. And why then, if there was always "something" and never "nothing", should we assume that "something" was always less organised than what it is now? And yet, that is the entire presumption upon which we base scientific explanations of life as we know it. Remove that presumption and a whole new world of possible truths opens up.

As we begun to note prior, this presumption is favouring reductionism and emergence[4], a philosophical and logical position that holds that complex systems can arise out of simpler parts and interactions such as we see with crystal formation, and is thus clearly linked with the theory of evolution. Any suggestion that our existence might be better explained by development or entropic decay from a more organised state, or at least might have been through cycles of higher order, is inconvenient to the presumptions of reductionism and emergence that underlie scientific research.

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[1] http://www.msnbc.msn.com/id/3077288/ -- "..from a smattering of bones into a 100-foot-long skeletal spectacle..", http://www.iienet2.org/details.aspx?id=20994 -- "They only had 15 percent of the bones required to form a display skeleton of the dinosaur. It is not unusual to find so few bones..", http://www.seattlepi.com/national/dino22.shtml -- false find, and sample critic: http://scienceagainstevolution.org/v4i8f.htm ;

[2] Charles Darwin referred to himself as an agnostic but not an atheist (http://en.wikipedia.org/w/index.php?title=Charles_Darwin&oldid=217730728). It should be noted that reports that Darwin reverted to Christianity on his deathbed have been refuted (http://en.wikipedia.org/wiki/Elizabeth_Hope#The_Lady_Hope_story)

[3] As previous footnote ref Darwin.

[4] http://en.wikipedia.org/w/index.php?title=Emergence&oldid=380408166.. See also reductionism: http://en.wikipedia.org/w/index.php?title=Reductionism&oldid=364305973

When we dig deeper and find that sentience and consciousness don't fit into objective scientific analysis, and when we find theories about our origins put forward assertively whilst leaving fundamental questions of physics unanswered such as "where did the big bang come from?", then we see presumptions and assertions potentially masquerading as truths.

The consequences become rather less than benevolent when we consider how much science has denied spiritual guidance through the criticism of creationism, with the result that we have lost the moral compass that guided law, social science and the pursuit of individual liberty, rights and fulfilment.

Perhaps it goes without saying that the benefits of considering individuality, with the increased imperative that only an understanding of quintessential sentience can bring, would be to give an increased moral awareness to leadership on issues of law, politics, class and culture, all of which appear to be foundering in modern times. With increased depersonalisation giving rise to a decreased dependency on individual responsibility in the wake of sterile authoritarian control, society is in danger of crushing and alienating the individual spirit. Surely it is all too obvious that there is a link between this depersonalisation and such symptoms as the rise of antisocial behaviour, carelessness and ruthlessness which are in turn coupled with the decline of virtue, compassion and personal well-being. Is the prominence of objective scientific analysis and its sterile conclusions on humanity in any way a contributing factor? The word "science" comes from the Latin for knowledge. If science is the pursuit of knowledge, it must draw from all sources of evidence, whether that be empirical or logical, undeniable or fleeting. It is not good enough to sideline certain aspects of the human condition because they don't neatly fit into scientific method. It is not good enough to leave the human spirit to be analysed by esoteric philosophy systems with little or no influence over the way we live.

Of course, it is not fair or reasonable to create a direct link between these social issues and the avoidance of quintessential consciousness by science. However, science increasingly influences modern administrations whereas in previous centuries, administrations often drew heavily from religious morals. Although there are many critics of the abuses of religion, it can be argued that our modern living standards are testament to the virtues of "religious values" which have brought us out of the dark ages of vile corporal punishment and the misery of inescapable serfdom for all but a lucky few. There are those who might advocate modern living standards are more to do with technology and the industrial revolution, but we should not forget child labour, workhouses, and even now the threat of "big brother" abuses of technology. With the rise of theistically averse science, there seems much less emphasis on nurturing the human spirit, leaving some with no reason to exist except to compete and gratify. How long can the West rely on the momentum of old-school religious values to moderate unbridled materialism and gave us fellow human compassion and common sense?

It should be said that we're not interested in trying to prove science wrong. The point that we are making is that the study of certain phenomena may be prejudiced by the fear that it might prove some science wrong. Even formal recognition of the "preternatural" status of quintessential conscious awareness would allow more research, prevent the prejudice of faith, reduce dehumanisation and encourage respect for the individual.

Let's embark on a journey of discovery through the various explanations of existence and meanings with a critical eye to theories and presumptions that ignore the credibility Quintessence deserves..

2.1 In The Beginning

Organic lifeforms on earth have come a long way in evolutionary terms. Humans have come a long way. Before we became distinguished as sentient and sapient beings, we were apes aware of pain and pleasure, struggle and progress, possibly even self-aware to an extent, but unable to explore any self-awareness due to lack of intelligence. Before that, we were furry animals that we now struggle to imagine knew the difference between being awake and asleep. Further back before that, bacteria and single celled amoeba -- molecular machines almost certainly devoid of any awareness of any kind, self-awareness or otherwise.

At some point along the road, the molecular Machinery on which we are based accrued a radical new ability. It became capable of self reflection. Not only was it awake, but it was aware, and eventually became self-aware. We evolved bigger brains with even less instinct than our forebears. Whilst this lack of instinct disadvantages the infants in our species, who as a result are born defenceless, we became programmable and intellectually pliable information sponges awaiting a new development -- the spontaneous arrival of education. We learned the art of teaching our young, passing on our memories and making ourselves communally immortal.

Humans have come a long way just in the last 200 years with exponential levels of discovery. Education for the privileged has been with mankind as long as documented history allows us to remember, but even in the last 50 years, westernised cultures have achieved educational proliferation to such a degree that we almost all have the intellectual tools with which to think and analyse our existence.

Prior to this age of discovery and education, religion filled in the gaps in our knowledge and as such, we were easily controlled. It is thus no surprise that the English monarchy continues to provide us with the head of the church as well as the head of state to this day. Spiritual and legal leadership went hand in hand.

Now, in what must be the dawn of a new era, we find ourselves in a different place having had the gaps in our knowledge filled with discovery, proven by scientific process subjecting theories to evidence and test.

So this is the story of life according to the *general theory of evolution* (including related theories) and it is indeed a very good theory. It is evidently the mechanism by which we are here at this point, soul-searching creatures aware of ourselves and able to understand the mechanics by which we got here. The discovery of evolution itself is a triumph for disciplined thought and heralds in an age of reason and relative freedom from irrational superstition and manipulating dogma.

But is it an all-encompassing theory? Is it sufficiently all-encompassing for us to presume that science has found a way to explain our existence?

Let's take a moment to look at what we mean by the "general theory of evolution". To be unambiguous, we should only use the term "evolution by natural selection" when we are referring to the progression of species. However, somehow evolution in general has entered the public consciousness as an iconic theory that encompasses a creation-free explanation for the origins of the universe. The science community does not fully endorse any single "Theory of Everything"[1] or "General Theory of Emergence" but rather science provides us with a combination of endorsed theories being principally the "theory of evolution"[2] and "the big bang theory".[3] Perhaps the theory of evolution merits its iconic status because "natural selection" is the one scientific theory that most contradicts "church creationism". However, it should be noted that the term evolution is somewhat ubiquitous and used to describe many aspects of natural emergence such as "cosmic evolution".[4] For the avoidance of doubt, *Awoken Evolution* mainly deals with the iconic status of "evolution" as a standardbearer of science's alternative explanations for existence, as we see exampled even in the repeated use of the term "evolution versus creationism".

Evolution is undoubtedly an exceptional theory being the only theory by which mankind can even imagine that something can arise out of nothing[5], by which mankind can conceive of order arising out of chaos without divine intervention.

Yet, whilst this might be a great discovery on the face of things, has this cosy view of existence answered the deeper questions about ourselves or has the sterility of scientific logic taken our journey down a dead end?

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[1] eg: http://en.wikipedia.org/wiki/Theory_of_everything &
http://en.wikipedia.org/wiki/An_Exceptionally_Simple_Theory_of_Everything &
http://en.wikipedia.org/wiki/Grand_Unification_Theory

[2] http://en.wikipedia.org/w/index.php?title=Evolution&oldid=341202646 and
http://en.wikipedia.org/w/index.php?title=Timeline_of_evolution&oldid=341310507

[3] http://en.wikipedia.org/w/index.php?title=Big_Bang&oldid=340674811

[4] http://en.wikipedia.org/wiki/Cosmic_evolution and
http://en.wikipedia.org/w/index.php?title=Big_Bang&oldid=340674811#Galactic_evolution_and_distribution, also
http://en.wikipedia.org/wiki/Neutral_theory_of_molecular_evolution etc

[5] See later passage 8.2.1, "Evolving Deities?", paragraph 3

Science has put forward this theory as a great rational answer to the question of our origins but, perhaps by overplaying the significance of this one theory of cellular progression, science seems to have stalled when it comes to addressing the finer points of self-awareness, sentience, sapience, free will, and that inner experience and perspective from which we all see life.

Our journey with science has rightly and proudly led us out of our bygone chains of superstition. However, in doing so it has virtually abandoned us in an intellectual wilderness, depriving many in Western cultures of moral direction and spiritual guidance. Death is an uncomfortable topic for everyone including those left behind, and where this becomes imminent, the enormity of it dawns on individuals and relatives leaving us to know the full force of that abandonment.

Science is right to report an honest and unbiased conclusion, no matter how sterile or uncomfortable that might be, but what is the point of science's continued search for our origins, which by and large it seems obsessed with,4] if those conclusions essentially draw a blank?[1] Surely the reason why we wanted to understand our origins in the first place is to understand who and what we are and what it all means without bias. If we go down a path of theories and evidence that leads us to conclude there is no meaning and we are just chance byproducts, then perhaps we are looking in the wrong place. Perhaps we should be concentrating fully on consciousness and how all things came into being, not sidelining these issues.

Let's take a critical look at science as an institution.[2]

As much as superstition and religion has been criticised for using the gaps in our knowledge to exploit our fears, might science have the potential to be an equally manipulative filler of the gaps in our logic? We are not talking about the evidence based science of most aspects of evolution, but the extension of this theory to include untestable Big Bang theories[3] and the origins of consciousness, religion, etc.

And why would science seek to manipulate us? Perhaps the answer lies in the recent exposure of global warming exaggeration ("Climategate" 2009).[4] The accusations surrounding the manipulation of data begged the question -- Is science itself in danger of losing its principled way when research funding creates an untenable conflict of interest? At worst, science risks becoming part of a self-perpetuating bureaucracy enshrouded by elitism that has gained such influence that it determines its own importance and budget. Perhaps the academic elite of such a bureaucracy has learned to habitually protect itself by presenting a unified front and by demonising dissenting voices, for example with critics of global warming mantra being branded "deniers" and ridiculed as akin to people who believe the earth is flat. [5].

Whilst religion no longer poses any great threat to science, it is simply the nature of any institution such as the science community to act like a political animal, to play down any potential dilution of its credibility.

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[1] See also 8.1.2 "What is Science Anyway?"

[2] A passing salute to Simon Singh for setting a helpful precedent.. http://news.bbc.co.uk/1/hi/sci/tech/8621880.stm (BBC News - Chiropractors' libel case dropped against Simon Singh). Awoken Evolution has been very careful not to cause unwarranted offence but with the libel case outlined in this BBC article, I suspect many authors thank Dr Singh for setting a precedent to deter unwarranted and perhaps even malicious cases, without which this critical look at science might have been impossible.

[3] See also 2.1.1 "Big Bang or Big Splat?"

[4] examples.. http://blogs.telegraph.co.uk/news/jamesdelingpole/100017393/climategate-the-final-nail-in-the-coffin-of-anthropogenic-global-warming/ ; http://www.dailymail.co.uk/sciencetech/article-1245695/UN-climate-change-panel-blunders-wrongly-linking-global-warming-rise-severe-floodings.html ; http://www.dailymail.co.uk/news/article-1245161/Climate-change-chief-says-sorry-hot-air-claim-melting-glaciers.html ; http://www.newscientist.com/article/dn18363-debate-heats-up-over-ipcc-melting-glaciers-claim.html

[5] Al Gore, 60 Minutes (CBS News), he refers to Global Warming Deniers as like "those who believe that the earth is flat" http://www.youtube.com/watch?v=HSh1WuN_dnc.. For many general references, see Climate Change Denial at http://en.wikipedia.org/w/index.php?title=Climate_change_denial&oldid=342546940 -- "Climate change denial is a term, generally pejorative,..". The author's views as to the rights and wrongs of climate concerns are irrelevant in this context except to say that whilst we should all have environmental concerns, it appears that research funding is one-sided and it is difficult to attach credibility to a finding that has no counterfoil funding. Sceptics are easily discredited as there is no funding to elevate criticism above amateur scepticism. This can be compared to a court of law where one side of an argument is brought by a competent well funded barrister against defendants who are denied legal aid and forced to represent themselves.

Hence the desire to disassociate itself from the unknowns that abound in any theory dealing with something as big as the origins of the universe. Theories dealing with the origins of the universe and the extrapolation of evolution theories to give us answers for consciousness are so riddled with unknowns, as we will demonstrate, as to create concerns that go right to the heart of science. Therefore, narrower theories with considerable empirical evidence, such as *Evolution by Natural Selection* dealing only with the progression of species, get pushed to the front of the wider battle for credibility as evidence that science is capable of satisfying all our need for answers.

Perhaps it is an unnecessary distraction to question scientific motivation but it is necessary to establish doubt as to the impartiality of some of the more marginal areas of scientific evidence.

To round up, there is no question of science promoting mistruths but there are concerns about impartiality and appropriateness. Later, we will look at some of the technical details behind the evolution of species, but first, let's take a critical look at big bang theories..

2.1.1 Big Bang or Big Splat?

"Not only is the universe stranger than we imagine, it is stranger than we can imagine." -- Sir Arthur Eddington, English astronomer (1882 - 1944)[1].

How significant is the theory of the big bang? As mentioned earlier, the General Theory Of Evolution tends to adopt an iconic status that encompasses an overall scientific explanation of life. The theory of The Big Bang becomes an integral part of that when we consider that without a credible scientific theory for the emergence of the universe, including the matter and physics that support life, theories of evolution become somewhat pointless.

In terms of its relevance to the science of physics, the "big bang" is a good theory, good in that it satisfies much criteria for sound theory as it has been successfully subjected to tests where, for example, extrapolations are confirmed against observation. That is to say, we have evidence and observations corroborating the predicted results of such a theory, such as the observation that the universe is expanding and is "red shifted" at the fringes (ie: very distant objects are moving away from us faster than close objects).

Whilst it describes the current state of the universe quite well, the problem with the big bang theory is that there are massive unknowns at the heart of the theory, unknowns with that part of the theory that purports to inform us about the origins of the universe. There are two broad schools of thought -- firstly that there was the creation of matter out of nothing and secondly that there was a conversion of matter from a previous state. This problem is expanded on throughout *Awoken Evolution* but perhaps now is a good time to introduce the vagaries at the heart of this theory.

In the absence of clues as to how physics, matter and energy materialised during the Big Bang, existing theories range from the simple postulate that there were no recognizable physics beforehand, through to the theory of the "Big Splat". The "Big Splat" is a name coined for a new theory for the origin of the Universe with the notion that a "Big Splat" preceded the Big Bang due to the possible interaction of an unseen parallel universe[2]. That of course simply presumes there was a conversion of matter from a previous state.

On the other hand, the notion that there were no recognizable physics prior refers to the Big Bang causing the beginning of time[3]. That is essentially the creation of matter out of nothing.

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[1] http://en.wikiquote.org/wiki/Arthur_Stanley_Eddington

[2] The Big Splat -- http://news.bbc.co.uk/1/hi/sci/tech/1270726.stm '''A new theory for the origin of the Universe is intriguing astronomers with the idea that a "Big Splat" preceded the Big Bang. It proposes that there may be an unseen parallel universe to ours. The idea, which is still at the development stage, may provide hints about what happened before our Universe exploded into existence some 15 billion years ago. The theory has been outlined in the past few days at the University of Cambridge in the UK and the Space Telescope Science Institute in the US. Paul Steinhardt and colleagues at Princeton University propose the so-called "ekpyrotic model". It explains important details about the nature of our Universe such as why the cosmos is expanding the way it is.'''

[3] http://en.wikipedia.org/w/index.php?title=Big_Bang&oldid=218408550

Simply put, the universe either converted or was created. If physics, matter and energy converted from another state, then it renders the big bang theory irrelevant to the extent that it does not explain the origins of existence at all. We must at least go back to the point where it all began which gives rise to interesting problems with infinities which we explore later[1]. On the other hand, if the universe was created from nothingness prior, then we have the point of creation. And of course that's impossible unless we give up on logic. There was always something prior, even if it was from a metaphysical dimension.

Whilst creationism supplies a metaphysical answer without any pretence at resolving questions about the origins of the originator, science too strives to find theories for the underlying origins. Indeed, such theories sound increasingly metaphysical. They include Dark Matter, Dark Energy[2] and String Theory which apparently leads to the 11th dimension Membrane Theory or M-Theory[3].

Where theories do not point to conversion from a previous state, they attempt to make the impossible sound possible and assume something emerged from nothingness.

The philosopher Immanuel Kant gives the non-theist a helping hand here with his input to space, time and causality. Followers of Kant would argue that to ask what happened before the big bang is an example of imposing the category of time somewhere it does not necessarily apply.[4] Although this is more about applying logical discipline to the concept of "nothingness" in order to guide theoretical thinking, it gives some credibility to the notion that everything, including time, started at the point of the big bang. A fully referenced counterargument goes beyond the scope of *Awoken Evolution*, but we disagree based on the barest definition of time being a rate of change. Now, there must have been at least "change". It may be that the difference was so vast that a near infinite amount of change was able to occur at a near infinite rate, but to say there was no change and no rate is to say it is possible to have a state of no causality and no logic. "Nothingness" had to have some kind of property, even if it was the property of change, in which case it simply was not nothingness.

And so the more we look at this theory of the big bang, the more we find increasingly elaborate sub-theories and arguments to patch over the impossible and unknowable.

At this juncture, we have to question the usefulness of such an incomplete theory. Even a probe of the evidence of expansion reveals anomalies. One of the central tenets of the big bang theory is that all matter is expanding outward from us (broadly speaking)[5]. However, the entire Andromeda Galaxy is in reverse, advancing towards us in the Milky Way at about 120 kilometers per second (432,000 km/hr), so it is "one of the few blue shifted galaxies"[6]. Undoubtedly there is a theory to explain this, such as a notion that it is circling in combination with a neighbouring galaxy, but the research put into Awoken Evolution has not as yet found any discussion or evidence of such theories. Perhaps a single massive black hole erupted with such force that it created two or more galaxies travelling in opposite directions, but again there seems little discussion or evidence of this or even this kind of thing occurring elsewhere.[7]

Of course it can be noted that it's not entirely helpful for creationism to ignore the origins of the originator either, as is the case if one refuses to even speculate about the origins of deities. We come back to this later[8] but nonetheless, the point we make for now is that as a theory for the origins of the universe, we can have doubts about the Big Bang theory. Arguably, this theory only competently deals with a tiny portion of the subject matter that it purports to explain in that observations show expansion consistent with an enormous explosion. However, any extrapolation of the theory to give us an explanation for the materialising emergence of the matter and energy of the universe, in short existence itself, is at best unprovable and at worst pure conjecture.

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[1] See 7.3 "Infinity & Hyper Evolution"

[2] http://en.wikipedia.org/w/index.php?title=Big_Bang&oldid=218408550

[3] as overviewed by the BBC in the documentary series Horizon, "Parallel Universes", February 14, 2002 http://www.bbc.co.uk/science/horizon/2001/parallelunitrans.shtml where Michio Kaku from the city University of New York explains "... there could be an infinite number of universes each with a different law of physics."

[4] as noted from the book Philosophy by Mel Thompson, ISBN 0-340-62112-5, p25

[5] See http://en.wikipedia.org/w/index.php?title=Hubble%27s_law&oldid=336809399 (Hubble's Law)

[6] http://en.wikipedia.org/w/index.php?title=Andromeda_Galaxy&oldid=341437151#Future_collision_of_the_Milky_Way_with_Andromeda the speed of light is 299,792,458 metres per second -- ie: 299,792 kilometres per second, so the Andromeda Galaxy is defying universal expansion quite quickly, at approximately 4/10,000th's of the speed of light relative to the Milky Way, presumably faster compared to its neighbours

[7] it's not possible to definitively cite the fact that something can't be found (ideally, one would find a scientific discussion concluding that it is inexplicable, but no such find was made)

[8] See also 8.2 "Eternal Evolution"

As noted aforeto, we will of course look at this theory again later on in the passage 7.3 "Infinity & Hyper Evolution" and elsewhere, but for now, let's turn to another credibility concern regarding our assumptions about the universe...

2.1.2 Alien Absenteeism

Of course there are many other credibility concerns surrounding our scientifically rationalised existence, including for example gaps in evolutionary theory which we will cover later, but one of the more interesting gaps in the fabric of reality is our failure to detect any other lifeforms when mathematical probability dictates the universe should be full of detectable life. Just where are the aliens?

Where spontaneous evolution occurs once, it should occur many many times in an infinite universe. If it doesn't, then that's an anomaly. Here, we examine just how improbable it is that despite all humanities rigorous searches, we find no evidence of spontaneous evolution occurring elsewhere. Perhaps it's not a strong point, but all anomalies need examination. Where there is smoke, there is fire.

If evolution is a sound theory, out of a universe a dozen billion years old (since the last big bang) with many millions of habitable planets, it is improbable to suppose there has been no one else visiting or transmitting radio signals potentially for millions of years advertising their presence. While long-distance space travel for others may be just as impossible for them as it is for ourselves, forms of communication and detection such as radio are obviously probable as we are both transmitting and receiving ourselves.

Of course a visit to YouTube would reveal many fuzzy images pertaining to be evidence of alien visitations but all are bereft of hard evidence. In short, if there were alien visitations, "we would know about it" and not have to look at fuzzy amateur images. Conspiracy theories pointing out that such evidence might be suppressed tend to unravel when we consider how seriously science does consider even scant evidence of extraterrestrial life. Indeed, President Clinton made a televised announcement[1] to mark the discovery of bacteria in the Mars meteor ALH 84001, a discovery which has since largely been discredited as having insufficient evidence. On that basis, we can only imagine the furore a verifiable visitation would cause.

Text on one NASA web site predicts there should be 10 billion "earthlike planets"[2] in our galaxy alone. That is to say, statistical models predict ~10^^{10} earthlike planets in our galaxy and predict a colossal ~10^^{21} (100 billion billion) such planets in the universe. Sticking only with this galaxy, because other lifeforms in this galaxy have a fighting chance of contacting us, that's an awful lot of potential lifeform supporting planets.

Now, one argument to explain this is that they would be no more developed than ourselves in which case they would have only been transmitting for a few decades. However, there is nothing to suggest that our planet had a particularly quick evolutionary cycle. Estimates seem to concur that our planet has existed for 4.5 billion years. [1]. Early bacterial life is thought to have started approximately one billion years after the planet was formed. A further 3 billion years elapsed before plants and animals started to form, approximately half a billion years ago.

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[1] http://en.wikipedia.org/w/index.php?title=Allan_Hills_84001&oldid=351681097#Possible_lifeforms

[2] More Reference material:

Extract from above NASA link http://astrobiology.arc.nasa.gov/roadmap/g1.html :-

"Background

Research in astrobiology supports "NASA's Origins theme" http://origins.jpl.nasa.gov/ {Author's note - link is broken, but see link below} in its attempt to search for habitable or inhabited environments beyond the Solar System. Humans have pondered for millennia whether other inhabitable worlds exist. Now, for the first time, they have an opportunity to look and see. Of course it is not possible to examine the ~10^10 Earth-like planets that simple statistical models predict to exist in our galaxy, much less the ~10^21 such planets expected to be in the universe. Still, it should be possible to determine whether terrestrial planets are indeed as common as predicted above, whether a substantial fraction of them show signs of habitability, and whether an appreciable fraction of these show biosignatures."

Also

http://planetquest.jpl.nasa.gov/Kepler/kepler_index.cfm

.. note the mention of the "transit" method of planet detection.

Any one of those stages in other earthlike planets in the galaxy may be taking longer or have taken shorter periods of time. Possibly half of all the predicted planets could be evolved to a higher state of evolution. When we say "higher", what we mean is they might have evolved to our current state of technological capability, easily as much as one billion years ago. We are at the tipping point of our evolution in that the last 100 years has produced a spectacular growth in technological know-how. Imagine what another billion years could bring!

Let's assume, using logic and these statistical models, that our planet is normal, that planets normally take 4.5 billion years to reach the point of planetary enlightenment. Thus, we are assuming some planets take less time, and other planets take longer. It's unlikely that anything could evolve to the tipping point within 2.5 billion years and equally unlikely anything as fertile as earth would take longer than say 6.5 billion years. If we graphed the normal distribution of probability, it is reasonable to assume we would find a bell curve parabola[2]. From visualising such a graph we can see some reasonable approximations including that 5 billion planets have already evolved to the tipping point of which most are likely to be evolved just before us but some well before us. Let's then assume only 10% of those evolved to a tipping point one billion years ago. That's just a mere 500 million planets.

Let's be generously pessimistic about the validity of NASA's statistical models and assume we were one of the faster evolving planets and that many "earthlike" planets do not evolve any lifeforms. We needn't be too pessimistic because we should keep in mind that any planet or moon with water and geothermal activity, such as Mars or Europa, could also support life. That is to say, there may be even more than 10 billion life supporting planets in the galaxy. Nonetheless, we will divide all our results by 10. That is still a staggering 50 million planets that have had one billion years in which they could have worked out how to contact us, and that's only in our galaxy.

For those who would argue that time is a significant barrier consider that the Milky Way Galaxy is only about 100,000 light-years across[3]. That's 0.01% of one billion years, so beings who have been attempting to make their presence known up to a billion years ago could have sent a message up to 10,000 times over if they were on the other side of the galaxy. So if any of the 50 million planets contacted any of the other 50 million planets, they could have exchanged 5000 messages worst case, or considerably more if they were closer together.

The conclusion is that we should be knee deep in alien radio messages. The fact is we are quite obviously not. Here are some of the popular theories as to why we have not been contacted yet:

- Intelligent radiation (radio signals) simply cannot be generated in the vast energy levels needed to travel such a distance. This argument has perhaps the most merit but it seems any lifeform with the benefit of a billion years of extra technological evolution would have overcome this if they were really trying. High-powered focused transmissions on a quiet wavelength should reach some distance into the galaxy, otherwise one has to ask why the SETI Institute has already been using this technique themselves.[4] Other simple methods might include targeted cosmic particles, irregularly placed artificial gas clouds or solar sails located to periodically block/reflect light from their suns in a pattern similar to Morse code. Although we note that such clouds/sails would have to be vast, such a possibility has merit when we consider NASA will be using the "transit" method of planet detection[1] where we will look for regular dimming of starlight obstructed by planets.

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[1] For example, Washington University: http://www.washington.edu/newsroom/news/2003archive/01-03archive/k011303a.html

[2] Also known as a Gaussian distribution curve - See http://en.wikipedia.org/wiki/Normal_distribution and http://www.answers.com/topic/normal-distribution

[3] http://starchild.gsfc.nasa.gov/docs/StarChild/questions/question19.html says 150,000 or http://heasarc.nasa.gov/docs/cosmic/milkyway_info.html says "The Milky Way is about 1,000,000,000,000,000,000 km (about 100,000 light years or about 30 kpc) across"

[4] SETI = Search for Extraterrestrial Intelligence. See http://en.wikipedia.org/wiki/SETI and see http://www.seti.org/

- The number of potentially inhabited planets is simply overestimated. For example, a BBC article suggested that current research estimates there are "at least 361 intelligent civilisations in our Galaxy and possibly as many as 38,000".[2] Note that this is intelligent civilisations, not just NASA's "earthlike planets". This lower estimate would thus indicate the potential for very few transmissions, whilst the upper estimate gives us confirmation that we still have a significant probability that we should have been contacted. The article referred to above makes another claim worthy of note -- that "it's a process fraught with guesswork; recent guesses put the number anywhere between a million and less than one". It is important that we should keep in mind that very low probabilities of inhabitable planets actually aid the postulate that we're making -- that the probability of spontaneous evolution is not borne out by the statistics.
- We have been contacted by other lifeforms but we don't realise it. Perhaps we have been errantly playing down existing sightings and not attaching sufficient weight to historical images that could be spacecraft. This argument has very little merit. If we had been contacted by other lifeforms, we would know about it. There would be overwhelming proof of it. It would be in our culture, our technology, everywhere.
- Alien contact is being suppressed by the government. This argument has slightly more merit but an awful lot of suppression would have to have occurred. This argument also makes the presumption that the other lifeforms are complicit or their evidence is somehow easily suppressed. Finally, one would wonder why governments wishing to suppress such information would publish the facts about the vast number of available life supporting planets.
- Other lifeforms do not know we exist and have thus not targeted us. This is a possibility although it is something of a surprise that the 50 million planets that should be capable of communicating have not been communicating with each other in such a way that we would have noticed. It's also reasonably probable that they would be sending out speculative fishing messages.
- Other lifeforms would be kind to our sensibilities and not risk terrorising us by intervening. The simple answer to this is that any alien with any such philanthropic ideals would most certainly have attempted to prevent the Crusades, bubonic plague, the Holocaust, the nuclear attacks on Japan, the ongoing starvation of millions, the oppression of millions in earlier dynasties and of the lower castes, etc, etc.
- Other lifeforms are just as aggressive as us if not more so, and assuming that we would be as well, they are keeping a low profile not wanting to signal their whereabouts to us or anyone else[3]. There are several counterarguments to this. If we assume other beings would be similar to us having emerged from evolutionary survival of the fittest and competition, we can make some presumptions. For one thing, although human history has shown some tendency for one nation to annihilate another, we generally enjoy a coexistence and a trend towards trade and mutual progress. Humans are adventurous and not very discreet in that individuals from less developed societies often venture into more developed societies, and vice versa, each mutually welcoming the other until some conflict arises over shared resources. Human history does show a worrying trend towards one society conquering another, and so there is merit to this argument, although it seems we would have been colonised long ago if such could be expected. Enlightenment and technology appear to go hand-in-hand for mankind, as advanced technology relies on significant cooperation and intelligence, which in turn promotes benevolence. On that basis, one could reasonably expect other lifeforms to be similarly enlightened, adventurous and benevolent. An alternative take on this would be to entertain the disturbing possibility that other beings are predatory in which case we still have support for our underlying postulate -- that we should have

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[1] Ref: http://planetquest.jpl.nasa.gov/Kepler/kepler_index.cfm.. in which NASA mentions use of the "transit" method of planet detection

[2] http://news.bbc.co.uk/1/hi/sci/tech/7870562.stm

[3] eg: Stephen Hawking's recently suggested it might be unwise for us to broadcast our existence http://news.bbc.co.uk/1/hi/uk/8642558.stm

been contacted by now, even if as prey. Whilst we have only been signalling our presence briefly (decades at most), our planet has been giving off detectable signs of its habitability and mineral wealth for billions of years in ways that we are in turn exploiting to find other planets, as in the use of "planet shine" by NASA [1].

- Other lifeforms would not want us to have their technology due to our aggressive nature -- then why permit us any of our technological revolution?
- All cultures that have reached the tipping point or the point of planetary enlightenment (contain organisms within that understand where they are in the universe) have a propensity to self-annihilation and thus give themselves only a relatively brief time window (such as our own ~50 years so far) to make contact which makes the chances of contact vanishingly low. This possibility has moderate credibility (and should be seen as a cautionary tale to us of sorts), but we do show signs of using our progress in an increasingly benign fashion. Finally, as popular as self-annihilation themes are in fiction, we are very much concerned with our own survival as we would reasonably presume other beings would be.

It may seem self-centred to hold the notion that we are somehow a special "chosen" lifeform at the centre of the universe, but the absence of proven contact with other lifeforms is an anomaly that does contest the probability of spontaneous evolution.

Later, in the passage 7.3 "Infinity & Hyper Evolution", we discuss the mathematics of probabilities and infinities to further reinforce the inferences above. For now, let's continue our journey nearer the ground...

2.2 Who Am I?

Now that we have broached credibility concerns about the evidence for a scientifically explainable universe, more gravitas can be lent to the examination of that most potent of aspects of the human condition -- consciousness.

We refer to it as that most potent aspect of the human condition because, as we have been labouring on up to this point, consciousness is that vital centre of our individual being that becomes the centre of our universe within our individual perspective, the most real thing we can individually possibly know, the phenomenon that is the ultimate possessor of knowledge and sensations making pain and pleasure vivid and real.

On the other hand, there are those that would attest that consciousness is nothing more than the difference between being asleep and awake. What does science tell us about consciousness?

The Association for the Scientific Study of Consciousness (ASSC)[2] appears to be the standard bearer for science on this subject. Its existence can be seen as a vindication of our underlying postulate that consciousness is something very special. On the other hand, one could be forgiven for thinking science doesn't consider it to be anything like "the most potent aspect of the human condition" given that it appears to have nowhere near the profile of other scientific pursuits. Of course there is no immediate way of knowing what their budget or profile is, but it is somewhat conspicuous by the absence of anything like the publicity achieved by particle colliders, palaeontology projects, archaeological digs, etc.

The ASSC is said to be examining consciousness in "cognitive science, neuroscience, philosophy" etc. It is nice to see the word "philosophy" included therein[3]. However, a simple examination of the titles on the papers awarded by their William James Prize[1] shows a leaning towards a "medical science" direction of study. For example, Award for 2007: "Cerebral bases of subliminal and supraliminal priming during reading", Award for 2006: "Travelling waves of activity in early visual cortex during binocular rivalry", Award for 2005: "Attention to Intention", Award for 2004: "Brain Function in the Vegetative State". To understand how "medical science" differs from other sciences and philosophy, see the latter passage 7 "A New Rationale".

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[1] http://news.bbc.co.uk/1/hi/sci/tech/5010936.stm ; http://planetquest.jpl.nasa.gov/TPF/tpf_index.cfm

[2] See http://en.wikipedia.org/w/index.php?title=Association_for_the_Scientific_Study_of_Consciousness&oldid=257954967 and http://www.theassc.org/

[3] This is a Wikipedia description (last checked 2010/04/16 from link http://en.wikipedia.org/w/index.php?title=Association_for_the_Scientific_Study_of_Consciousness&oldid=327000110), but their website also refers to philosophy frequently:- Link http://www.google.co.uk/search?hl=en&source=hp&q=site%3Awww.theassc.org+philosophy&meta=&aq=f&aqi=&aql=&oq=&gs_rfai= returns 386 hits at 2010/04/16

Despite these misgivings, it must be said that the ASSC does cover the subject as thoroughly as one would expect and so, given that the author has not read any of these papers, no criticism or doubt is intended other than to show that there appears, on the face of it, to be emphasis on the "medical sciences". Given that life and death (including life after death) is to many the most important question humans can ask themselves, one would have expected much more clear evidence of such a metaphysical and philosophical leaning than can be seen from a quick review of the ASSC website. Out of interest, we revisit the ASSC later in the passage 5.1.1 "Scientific Treatment of Consciousness".

And why wouldn't science say more about consciousness? To be fair, it just isn't a subject that lends itself to evidence based study. However, a more cynical view might be that were science to really examine the true nature of consciousness, it might expose some uncomfortable truths about the true nature of science as we discussed earlier in the passage 2 "Let The Journey Begin". Science is much more interested in answering the question "what am I?" than the question of "who am I?". The former is answerable. The latter is a field that should be left to philosophy. Because the objective of science is to explain and rationalise things, it finds itself intuitively at odds with anything metaphysical or spiritual by its very nature.

It would be a puerile to suggest science is deliberately avoiding the subject, and indeed non-metaphysical explanations should and must be sought wherever possible, however, given that such research could lead to a credibility implosion undermining evolution etc, perhaps we can agree that there is at least a deterrent against searching for the real truth behind consciousness. The question of "who am I?" is of course a gateway to many difficult questions. Let's look at what this "who" is, starting with human experience...

2.2.1 Experience and Computer Comparisons

Can human experience be explained? Is it possible for anything to possess a personal perspective in a mechanical, logical, unthinking universe? Can logic alone possess personal perspective?

We know that people surrounding us have a valid experience as vital and vivid as our own, simply because they exhibit a range of behaviours precisely similar to our own. Despite this, we cannot prove it actually occurs in anyone else except for our individual selves. That is to say, if I dropped a brick on my toes, I "know" it hurts. If someone else drops a brick on their toes, I can only presume it hurts. In the latter case, they may simply be exhibiting cause and effect, producing an evolved reaction without any particular inner experience, a reaction designed to get attention and help for the benefit of that person's survival. What is it that is different between me and the other person in this regard? The answer seems obvious enough, in the former example, it is my consciousness that experienced the pain. In the latter example, it is their consciousness.

If you were to watch myself and someone else both performing this painful experiment, you would see and feel no difference. However, for me as a participant, there is a huge difference between me and the other. This "difference" can only be observed by one or the other participants in this experiment.

Someone observing such an experiment from the perspective of a third person can readily explain it from an external perspective saying that such reactions are simply cause and effect, helping our survival and thus helping the propagation of our genes. In particular, the reaction of distress is very helpful to survival in that it powerfully creates sympathy and therefore attracts help. Were I one of the observed participants, such an observer would say of my inner experience that I simply evolved the attributes of vivid awareness by the normal means of evolutionary natural selection as a means of making the experience more vital and as a means of being able to relate to another person's experience.

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[1] http://en.wikipedia.org/w/index.php?title=William_James_Prize&oldid=323362371

However, there is a twist. If I am the third person observer, not only can I not prove or know there was any inner experience beyond that which I observe, I can and should assume there wasn't any. To assume there was some inner conscious experience beyond that which I observe would be to unnecessarily complicate the experiment and so I can and should ignore it. And yet if I put myself back into the experiment and feel the effect of the brick on my toes, I discover that within me, there was an inner conscious experience beyond that which I observed in the others. There is a difference.

This is the difference between my own experience and that of someone else. This "difference" is thus a perspective that is experienced upon something called consciousness, something which defines me as an individual because my experience is different to yours. This defines "me" as an entity trapped in the perspective of my body, with a perspective limited to the stimuli available to my body. This difference defines my quintessence or spirit.

Describing the human condition from an external third person perspective is to ignore the profoundness of the phenomenon. Scientific research, especially in the field of medicine and psychology[1], habitually analyses from that external perspective and in doing so finds consciousness to be a simple phenomenon providing a vitality to the being that possesses it. Indeed, consciousness becomes something possessed by the being that exhibits it. However, when viewed within oneself as a possessor of sensations, experiences and perspective, consciousness then becomes the owner of the being rather than the being owning the consciousness. When examined within oneself, conscious experience is not so easy to understand. How can we analyse this personal aspect of consciousness?

As conscious experience is not something that we can empirically evaluate in the flesh, we will look again at computers picking up from the earlier passage 1.3 "Is True Sentience Possible?" comparing humans to computers, but this time looking at the wider web as a greater potential for synthesised consciousness.

We know that people surrounding us have a valid experience as vivid as our/my own simply because they express a range of symptoms which are equivalent to our/my own. However, it would be difficult to imagine a powerful computer ever attaining the personal perspective of experience without consciousness simply being synthesised. To generate real consciousness as we know it would require at least that the computer was as powerful as the human brain, or to remove doubt as to whether or not it is a question of power, we should consider a computer that is more powerful than the human brain. Is there such a computer?

Two of the most powerful things the human brain does is to analyse vision and to understand speech. These two skills have been shown by brain scans in clinical trials to require large parts of the brain.[2] Modern computers frequently come with speech recognition and thus can now understand speech for the purpose of dictation. Although they cannot comprehend and interpret speech to the extent of sharing, analysing and forming complex ideas as we do, they do understand speech to some extent using context and limited comprehension in being able to correctly transcribe dictation.

Let's not forget also that computers can easily generate speech with correct grammar, that computers compute mathematically far better than humans do (chess playing for example) and that computers can now store massive amounts of data. It is also not entirely fair to say that computers cannot share and analyse complex ideas, because they can certainly compute complex tasks and enjoy a connectivity that is far more accurate than human discourse. Speech recognition can be used to control such tasks as data entry, dictation and selection. That these tasks are commonly controlled by other inputs (keyboard etc) is only testament to the limitations of speech as a form of communication. Indeed computers can communicate with each other millions of times faster than speech communication allows (as for example, standard computers can transfer 10 average books a second on a 100 megabit network).

In terms of visual analysis, whilst no mainstream visual analysis programmes are commonly available as yet, the core ingredient for visual analysis in humans is the ability to create a virtual world within one's mind and build on that world with the use of vision and touch so that the mind can relate to the real world through comparisons to that virtual world. Computers are now very good at creating virtual worlds and there are plenty of programmes for comparing data received through a camera with images already retained, or with images created by the virtual world within. This technique is coming into use to allow virtual camera angles in sports coverage for example.[1]

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[1] see Freud

[2] Eg: http://www.csmc.edu/Medical-Professionals/Imaging-Center/Neuroradiology/Functional-MRI-of-the-Brain.aspx

It is important to keep in mind that whilst the human brain presumably performs these skills much better than a computer, these skills require the use of large parts of our brain[2]. Keep in mind also that animals with smaller brains are relatively devoid of language, especially the ability to share and form complex ideas (notwithstanding that dolphins communicate and may have names for each other, bees use dance to communicate directions, and other exceptions to the rule). The point of this is to note that if computers are within reach of higher functions which use notable quantities of human brain power, then computers must also be within reach of any power required for real consciousness.

Whilst the human brain outperforms computers in the aforementioned functionality, for the purposes of imagining a computer that is powerful enough to perform these skills well and then go on to exhibit self-awareness, simply think of 10,000 computers or if you like one million computers all linked together. And so, if we consider such a link up possible on the web for example, the answer to the earlier question asking if there is a computer powerful enough to parallel the human brain, the answer is yes. Perhaps just 1000 well programmed desktop computers would provide comparable computing power to the average human brain. Of course science-fiction has already considered the impact of the world's computers linked together on the Internet being able to circumvent the rigidity programmed into them.[3]

And so, despite the potential availability of sufficient computing power, nothing approaching consciousness has been attempted or observed. Indeed it is difficult to imagine a computer, regardless of its power, ever attaining an "existential" personal perspective in the way that humans experience self-awareness. To express this using theistic terms to underline the point, it is difficult to imagine a supercomputer acquiring a spirit or a soul. Consciousness in machines is counter-intuitive. Later, we will go beyond imagination and intuition to make our point, but for now these are the seeds that can grow to make us re-examine life.

Whilst difficult to imagine, let's look at the possibility of a supercomputer having true self-awareness. It could certainly be programmed to simulate such an experience and that simulation could be useful to it thereby increasing its chances of survival, simply because such a faculty would afford it the ability to relate better to its peers and even its human counterparts. It could further be programmed to have an appreciation of its environment, perhaps to take an artistic view as well as a practical view. At what point would it see the world as a vivid sensation as much as we do? If programmes were to mutate as do computer viruses, could the richness of this experience within it become another perspective on the universe and spontaneously lead it to question the validity of its own existence, to search for meaning in life?

To try and further imagine the concept of a life force breathing itself into a supercomputer, imagine that you were "born" that supercomputer. Can a supercomputer be the vessel of the vivid and intense experience of existence that we feel, other than it would be able to simulate a virtual equivalent? What would that experience be internally related to?

Considering what it would be like to be inside a different perspective is such a difficult concept to grasp, it even begs the question -- **what is it to "be" something?**

We will leave computer comparisons there for the moment and pick up on the idea of sentience within computers again in the later passage 2.2.1.4 "Hammer House of Supercomputers".

And so this brings us right back to the original supposition[4] -- is it possible for anything to possess personal perspective in a mechanical, logical, unthinking universe? Can logic alone possess personal perspective?

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[1] BBC R&D - Production - Magic - Piero http://www.bbc.co.uk/rd/projects/virtual/piero/

[2] See prior in this passage, paragraph 10

[3] eg: The Lawnmower Man (film) -- a 1992 film written by director Brett Leonard and producer Gimel Everett loosely based on the Stephen King Short story of the same title.
http://en.wikipedia.org/w/index.php?title=The_Lawnmower_Man_(film)&oldid=336453304

[4] See prior in this passage, paragraph 1

In our continuing quest to find doubt concerning a rationalised view of consciousness, let's upgrade our *thought-model* to include robots...

2.2.1.1 Playing God With Robots

If looking to see how these philosophical issues have been dealt with by contemporary art and literature, look no further than some of the more philosophically probing outpourings from Science Fiction, in particular the fictional three laws for robots by Isaac Asimov, and the film inspired by him, "I, Robot", starring Will Smith distributed by 20th Century Fox in 2004.[1] The following quotes are testament to the amount of philosophical issues raised by that film alone...

- "They look like me but none of them are me. Isn't that right doctor?", excerpt from Sonny the robot character in the aforementioned film.
- "When does the difference engine become the pursuit of truth?"; "When does a personality simulation become the bitter moat of the soul?" (excerpt from same film).
- "I thought you were dead (Will Smith) -- technically I was never alive (Sonny, robot)" (excerpts from same film).

To help us understand that which is within us all, that which has ownership of our Awareness of Being, our individual perspective, pains and sensations, let's now imagine for a moment that we can make robots in an effort to better imagine how evolution could assist a computer to attain conscious awareness.

For completeness, let's imagine that we are participants in a huge game where there are thousands of contestants, each having designed and built their own robot. These robots are all put into a large "game park". In this game, there are no rules, no obligation to observe morality. If a contestant wishes to carry out a certain course of action, and that results in wiping out all the other contestant's robots, then he is perfectly entitled to do so. If a contestant wishes to have a quiet life, then he is free to do so (but he may find his robot at the mercy of less scrupulous contestants and lose his robot). Robots that wish to seize property and resources (ground space and fuel for example) are free to do so to any degree they see fit.

Within such a microcosm, all the ingredients of evolution can be visualised with competition, survival of the fittest, and even social evolution. Robots could agree to group together in order to stay safe from marauding robots driven by the less scrupulous contestants. Groups of robots would be able to better coordinate the seizure of property and resources.

It might even be found that the better groups would attract robots that had pleasant qualities of social integration including "compassionate" qualities such as looking out for one another, being unselfish, sharing information generously within the group, but withholding it from others outside of the group.

For robots within those groups to make use of such tribal qualities as compassion and selflessness, individual robots would benefit from being able to communicate mechanical problems and threat of destruction. This might be through a display of pain, fear and distress for example. The more the problem or threat, the more the robot would benefit from compulsive displays of pain and distress. Other robots within the group would improve the overall group's chances of survival by being programmed to find such displays an overwhelming motive to assist.

These are the symptoms and causes attributed to us "mortals" by scientific minds. This is how evolutionists rationalise the existence of compassion, love, pain, sorrow, motivation, etc.

So, let's pose a new question -- where is the ownership of all these sensations? All these clever and complex machines running around in the game park exhibiting all manner of humanlike activity including awareness of their own existence, including their own individual perspective of vision and sensation, including compassion and selflessness -- would all these sensations, including those of exercising will and virtue, be realised in the same way you and I would sensate?

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[1] Distributed by 20th Century Fox; Release date July 16, 2004, all copyrights acknowledged

The obvious answer from this particular scenario is that it is the contestants controlling the robots who own the sensations.

If some occurrence such as a disease or accident permanently removed all the contestants, and yet the robots retained their programming and continued, who then would own these sensations?

We could expect a reasonable probability that our orphaned/abandoned robots would continue. They would perhaps begin replicating themselves, maybe forming partnerships competitively trying to find the most successful partner and then basing their replication on a composite of their designs (in a way that is similar to sexual reproduction).

With this in mind we cannot rule out the possibility that these machines would accrue humanlike traits becoming sensitive, complex and unpredictable. However, could we then imagine they would own and manage their own sensations?

Or is it nonsense to suppose they could have a genuine sense of ownership of their own perspective, sensations, awareness? Let's look for example at one of the strongest sensations that we are all familiar with -- pain. Consider the last time you were in great pain. There was no mistaking who owned that pain! There was no mistaking how inescapable that sensation was. If you are a psychologically strong individual, try thinking about these things the next time you are in pain rather than doing what most people do -- find some painkillers and find something to take your mind off it. This certainly brings into focus the reality of life.

Now let's go back to our robots and imagine one of them is displaying a great deal of distress having had some accident. Then ask yourself what part of its circuitry owns that distress? If the planet were full of a billion robots, all going about their own various tasks and interacting like plants and bacteria have for billions of years, can we really say anything is happening at all other than simple kinetics?

And if the answer is that they can own sensations, experiences, happiness and sadness by simply having programs to process these things in the same way that we do, then we must attribute such ownership of pleasure and pain as being possible in anything capable of mechanical thought from a smart phone through to a supercomputer.

Perhaps we should think of sentience as that ability to know pain and pleasure simply by being able to receive and process criteria applicable to ones survival. At the lowest level, this is simply the ability to react to threat and seek nourishment. Then we could think of the capacity for sentience as a gradient ranging from ants (that surely react to threat and nourish themselves) through to humans with our advanced anticipation of threat and with planning abilities and dread and desire.

This ability to react and seek requires the interaction of memory with perception. In the case of lower life forms, most of the memory would be instinct, for example to know what food smells like and to know that sudden movement means threat. In the case of higher lifeforms such as humans, memory can be used in advanced ways such as trial and error to allow us to benefit from developments such as cooking, shelters and weaponry. Perhaps any display of memory interaction in a being, where recorded experience is recalled in order to modify a future situation to benefit itself, would have to merit the beneficiary sentient status. If we consider this use of memory to react and seek as a basis for sentience, and if we then consider that the resulting sentience is in proportion to memory storage and processing capacity, we surely describe a formula for variable sentience in all creatures. At the most advanced end of the spectrum, that of ourselves, this gives rise to the quintessential conscious awareness of inescapable pleasure and pain within our own internal mechanisms.

However, if that formula for variable sentience is correct, many computer programs, self-levelling suspension, automatic gain controls and amplifiers, governors that govern the idling of motors, and even thermostats must also have a degree of sentience. Perhaps the simpler things are, the less sentient they are, but that means a massive network of powerful computers could potentially be more sentient than ourselves.

Where do the boundaries of sentience start and end? In nature, it presumably doesn't encompass such phenomena as fire, waves, clouds and complex weather systems, all of which have energy but do not apply previous experience to change their behaviour. However, the label of sentience does apply itself well to insects, animals and most of all to that massive collection of collaborating cells we call human brains. And yet we must not forget, we should equally apply the label of sentience to thinking machinery, from thermostats through to supercomputers.

So sentience should be the same for our brains or for any equivalent computer, but is it? With us, there is something else. Within us it doesn't *seem* to be just awareness of one's own reality but ownership of a reality. All this use of memory to react and seek as a basis for sentience is simple kinetics otherwise known as cause and effect. We seem to know of ourselves and the rest of existence. Perhaps that too is simply advanced kinetics, but this internal knowledge of striving to exercise free-will with virtue or otherwise, this inability to escape from sensations, desire, needs, fear and pain, this is *surely* on another level.

Whenever we use words like "seem" or "surely", we invite scorn from pragmatic thinkers, and such scorn would be quite reasonable if we stopped there. However, these words are merely used to draw attention to the instinctive knowledge we have of the differences between true sentience and mechanically synthesised sentience. And it is this instinct that will compel us in due course to find harder evidence and build logical constructs to confirm that we do indeed have some means of harbouring, containing and owning the essence of experiences in a way that computers and so forth do not.

Once that has been established, we of course open the way for even more compelling questions. For example, which part of our brain owns this awareness? If we find that part of our brain and disable it, will we become zombies reverting back to nothing more than kinetic cause and effect? What happens to that ownership when we are asleep? When we are unconscious? When we are dead?

We can make things think, we can even make them think they are alive, but does that make them alive? Will they ever become "awake"? Given that humans can function while asleep, ie: while unconscious, can we even be sure what it is to be awake and can we even define criteria by which to measure it?[See earlier passage 1.3, "Is True Sentience Possible?", paragraph 11]

As we noted in earlier passages[1], we should be able to measure and analyse anything passing through a computer (or robot brain) but what would we look for if we wanted to test and see if a computer process was really feeling pain? As we know that it is necessary to be awake to feel pain, we could start by measuring being awake, and again, what would we test for?

We should test for sense-data, looking for messages carrying the sensations, especially destructive sensations that might lead to the experience of pain. However, how would we know whether or not a process was simply interpreting the data mechanically or experiencing the sense-data as actual pain? This would appear to be the difference between being asleep and awake. Would we test for processes that inexplicably took more power? Perhaps the area of the computer conducting the process would glow? Of course not, and the point is that for me or you, we "know" such feelings as pain and yet in our robots, we must suspect they don't as we can't even devise a theoretical test to know that.

2.2.1.2 Experience, Ownership, Sentience

This passage returns to basics to re-examine "experience" as a means of determining true *sentience based self-awareness*. Here we refine our earlier examination of the experience-moment[2] by examining how we have "ownership of experience"[3] possessed by each of us individually in our own unique reality.

In going back to the basics of the original question of whether or not there is "more than meets the eye", it seems to boil down to this -- whether or not our own existential experience of self, our individual personal perspective that each of us inwardly experiences, is possible given that we are purely machinelike products of cause and effect in a non-sentient universe.

The reason that we seek to understand Sentient Experience is to differentiate between mechanical sentience which must otherwise occur in almost any machine, cellular or otherwise. For example, we could say that a battery is aware of a lightbulb being connected to it because the battery feels the drain.

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[1] See 1.3 "Is True Sentience Possible?"

[2] See also 1.6.1.1 "The Mechanics of the Experience-Moment"

[3] See earlier passage 1.6.1.1, "The Mechanics of the Experience-Moment", paragraph 71 -- where first touched on in that segment

Whilst this is clearly a very simple example of self-awareness, if we presume that Sentient Experience is a simple quantifiable phenomenon, then we must attribute Sentient Experience of sorts, even if very limited, to a flashlight torch. Indeed, we could say that its switch was a sensory input and that, just like a skin pinching test for Sentient Experience, the torch was aware when it's switch was depressed as it resulted in a current being drawn out of the battery through the bulb. Thus we can say that the torch exists as an individual that is aware of its own basic experiences, no matter how insignificant.

If we do not agree with this last statement, then we must find the dividing line and accompanying logic to define where mechanical responses end and sentient responses begin. If we can find this dividing line, then we might be able to define sentience based conscious awareness.

It may be that those who prefer to think Sentient Experience is not a special phenomenon think that the big difference between a torch and a human is complexity but then we must ask at what level of complexity does Sentient Experience kick in? Do grasshoppers, bees and even inanimate objects possess it? If it is just a question of complexity, should not the Internet possess it in even larger quantities as we examined prior?[1]. Maybe all these things do possess that vivid individual sensation of experiencing one's own existence just like we do, but in proportion. However, there is no hard evidence that they do, and if we assume they could, we open a Pandora's box of mysticism, allowing objects such as cars to possess what we humans call a spirit, etc ad infinitum.

To help clarify this issue, should we concern ourselves about crushing a car? If the answer is "no, a car doesn't feel anxiety or dread", then basically we are saying that there is nothing wrong with terminating sentient beings such as ourselves either, as long as we don't cause any anxiety or dread. Perhaps we are saying there is a sliding scale of wrongness with flashlights being at the bottom, humans at the top and bugs being somewhere in between. This then perplexes us as to how we should know the difference between right and wrong.

As an aside, that also begs the question -- what is anxiety and dread? By suggesting we should make a judgement based on these intangible emotions, we immediately elevate them to something more than signals, no matter how complex the signals might be.

Let's take a different tack. Let's assume sentient experience is tied up with "being" and "existing". We can start with a statement of absolute knowledge that we can each apply to ourselves, for example, "I absolutely know that I exist". This is self-awareness, the experience of existing, or "existential experience". We can say that this is an absolute knowledge because it is the one fact that we know above all else. I cannot be certain about anything else except that I can be completely certain I exist because feeling myself thinking about that proves it. This gave rise to the classic axiom by René Descartes, "I think, therefore I am".[2]. If I think, I know I exist. However, I cannot know with absolute certainty anything else exists and so the essence of existential experience is not a small thing. Let's see if we can explain existential experience in order to explain sentient experience.

One might attempt to describe "existential experience" as a cellular machine in an unthinking universe experiencing an affinity with itself. A cellular machine should not experience any more awareness of it's surroundings than would a computer with a camera. A cellular machine should have no more self-awareness than such a computer with the camera turned back on itself.

And yet a cellular machine (call that a human being or what you will) that is equally subject to the logical laws of cause and effect, having evolved from unthinking matter in an unthinking universe, appears to be capable of capturing life through its senses and experiencing it. If we agree that such an experience does not belong to the surroundings, then we must ask what is it in the observing cellular machine that actually experiences the images of its surroundings?

In order to comprehend the scene, the cellular machine would have had to understand, relate and experience. Let's assume though that the act of comprehending, understanding, and relating, is mechanical. In this case, we cannot say that the cellular machine is experiencing anything -- it is simply observing.

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[1] See also 2.2.1 "Experience and Computer Comparisons"

[2] This is covered in depth later. Eg: See 6.2.2 "What can Descartes tell us?"

Let's anticipate a counterargument -- that the cellular machine in question, a human being, never unthinkingly observes, but that it comprehends and thus experiences by relating to memories etc.

This just proves that the argument is somewhat circular, because we can keep redefining the point at which existential experience occurs. Experience is just logical activity, i.e. thought. Indeed, it cannot be "experienced" until that logical activity is witnessed by something outside of the loop.

In a similar way, it might be said that we know we exist because we are analysing the fact (and incidentally, that would make us unique from all other creatures and machines). But what is it within us that knows we are analysing? If we go on layering and say that the knowledge of the analysis only becomes awareness when we analyse this layered knowledge, then we are simply getting ever more circular by asking what knows we are analysing the analyser of the analysis. If awareness of our own existence is dependent on analysis then it becomes circular and infinite again like Zeno's Paradox Of Halves[1][2].

If we go to a concert, a Piano Recital for example, I think we can agree that the concertgoer experiences something. This is one kind of experience -- an individual is aware of a stimulus so "he" can say he "experienced" the recital. Let's go deeper within the experiencing individual to see what happens inside. It should be reasonable to postulate that among other things an image and sound was projected and relayed inside the mind of the concertgoer. The concertgoer's mind would be quite busy interpreting, recalling memories, relating the new inputs to those memories.

What is it within the concertgoer's mind that gives rise to the sensation of experiencing? Adding new memories or revalidation of existing memories might be used to rationalise this away but it does not explain the reality inside the concertgoer, the feeling of ownership of the experience. Adding new memories is just a logical activity and does not define where the sentient part of the experience occurs.

And so this is "experience" as it is felt by a sentient individual. Experiences are vivid sensations registered upon some surface somewhere, not just the process of repeated self introspection[3], not just a stirring of memories, but nonetheless these are sensations owned by the surface upon which it is registered. This is sentience.

We can now start to see an emphasis on ownership. At some point in the inevitable process of repeated introspection, the experience becomes "owned" by you and terminates there.

2.2.1.3 Sapience & Sentience, the Link

What is Sapience? In this context, we mean the ability to judge using free will. The term Homo Sapiens implies that humans as a species have this additional special property over and above animals. We encounter the word frequently throughout *Awoken Evolution* because it is a word that couples well with sentience. In a nutshell, consciousness splits into two halves -- the ability to experience (sentience) and the ability to judge (sapience).

First, some expansion on the subject of sapience is called for, mainly because we are giving the word a slightly greater status than the etymology of the word might suggest...

> When we think of the term Homo Sapiens, we look to the word Sapience to define our species and differentiate between animals and similar species (e.g.: Homo Habilis, Homo Erectus).
>
> The rather dry definition of the word Sapience returned by most dictionaries is typically "Having great wisdom and discernment"[4]. Another definition has it as "1/ full of knowledge; wise; sagacious; discerning 2/ of or relating to the existing human species (Homo sapiens)".[5] So, what is wisdom &

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[1] See earlier passage 1.6.1.1, "The Mechanics of the Experience-Moment", paragraph 4

[2] See also 1.6.1.1 "The Mechanics of the Experience-Moment"

[3] See also 5.1.4.1 "The Spectator Illusion"

[4] Entry for "Sapient" from: The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2009. Published by Houghton Mifflin Company. All rights reserved.

[5] Webster's New World College Dictionary Copyright © 2010 by Wiley Publishing, Inc., Cleveland, Ohio. From http://www.yourdictionary.com/sapience. Used by arrangement with John Wiley & Sons, Inc.

> discernment? "The ability to discern or judge what is true, right, or lasting; insight"; "Exhibiting keen insight and good judgment; perceptive".[1] Now the word judgement (or variants of it) are starting to appear. Isn't wisdom just good judgement? Finally, Webster's Online Dictionary[2] has it as the "Ability to apply knowledge or experience or understanding or common sense and insight"[3].
>
> The definition for "Homo Sapiens" is even drier: "The modern species of humans, the only extant species of the primate family Hominidae."[4]
>
> The Online Etymology Dictionary has Sapient down as from Latin, especially from the word Sapere "to taste, have taste, be wise" which in turn comes from a word that means "to taste, perceive"[5], which actually makes the word quite close to sentience.

Is Sapience, especially as used in the term Homo Sapiens, well served by any of the above definitions? When we take all these definitions together, we start to get a clearer picture of what we mean by sapience within the term Homo Sapiens. It means not only to have wisdom and discernment, but also to be able to judge well, to be able to judge with discernment and wisdom. To be able to judge anything, we need freedom of choice, free will. And so it is, for our purposes we will simply define sapience as:

- Sapience: The ability to judge wisely using free will.

Consider "freedom of choice". This is something that is legally embraced[6] in determining whether or not we should be punished for wrongdoing where the legal term "mens rea" implies that desire and care are under an individual's control[7]. From this, we should note that we are legally obliged to exercise morally acceptable judgements.

And yet, how can we be responsible for such judgements?

How is it possible for one to have choice when logical choices can only ever be the product of the inputs? By "product of the inputs", we mean cause and effect[8], and even if we include all environmental factors, fed back memories and some randomisation, the outcome is always going to be theoretically predictable. At what point in the flow of logic during choice can "I" possibly feel I am interrupting the flow and making choices?

Of course there simply isn't any hidden influence over choice, and thus the choices we make are preprogrammed, locked into the product of the inputs. Then we should ask how "my" inner individual perspective exists in a vivid way which makes me ***feel*** as if I have choice? That is to say, even if there is theoretically no choice, we "feel" ourselves labouring to make choices! Furthermore, the sentient part of me that feels the discomfort and pain of punishment is expected to take responsibility for what is essentially a preprogrammed outcome.

The sentient feeling that we are striving to make a choice must surely be fed back into the process of actually making a choice, or else sapience, the ability to judge and to exercise free will, is a mechanical process, an automated process with a preprogrammed outcome, which we feel without being able to intervene. Then, if that automated process makes a wrong choice resulting in our punishment, it seems completely unfair to inflict discomfort on the Sentient Observer that could not influence the choices made.

This seems to be a folly or an absurdity. Instinctively we feel that the sentient feeling of struggling to make the right choice *must* be fed back into the process of judgement. Therefore this sentient feeling must add to the process of sapience.

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[1] Both -- The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2009. Published by Houghton Mifflin Company. All rights reserved.

[2] http://www.websters-online-dictionary.org/sa/sapience.html

[3] Source: WordNet 1.7.1 <http://www.websters-online-dictionary.org/credits/wordnet.html#> Copyright © 2001 by Princeton University. All rights reserved.

[4] The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2009. Published by Houghton Mifflin Company. All rights reserved.

[5] © 2001-2010 Douglas Harper http://www.etymonline.com/index.php?term=sapient

[6] See also 6.3.1 "Legal Obligation to Believe"

[7] http://en.wikipedia.org/w/index.php?title=Mens_rea&oldid=336291046

[8] See also 2.2.1.1 "Playing God With Robots" when we extrapolate this point much more

And so, if sapience is in any way reliant on sentience, we have to presume that sapience (the ability to judge wisely using free will) is just as extraordinary as sentience.

Sapience (in the interpretation given here) is the equal and opposite of Sentience. Sapience judges whilst Sentience experiences. The two interact with each other to give us life.

2.2.1.4 Hammer House of Supercomputers

Now we are going to look at whether or not sentience, our quintessential conscious awareness, is singular and indivisible... and if it isn't, what then are the ramifications for a nice orderly rationalised human existence?

There was a very amusing film called Re-Animator that was released in 1985, directed by Stuart Gordon, which will make an excellent starting point for the thought experiments following. It is a black comedy horror film, the central premise of which was based on experiments exploring where the soul was located in the brain. Naturally, this gets quite macabre but thankfully we are spared a lot of unnecessary gore thanks to a fictional serum that could be transferred between brains. This is not so different to earlier beliefs surrounding "élan vital"[1], whereby this "essence" could be harvested and embedded into inanimate substances and activated with electricity.

Regardless of its irreverence and fictionality, this raises some interesting concepts. Where would my centre of self be after such an experiment? What if our brain was halved down the naturally occurring split in the middle and one of the halves was swapped with someone else? Theoretically that is possible (but don't try it at home). Although it would likely take a lot of time for the two different halves to become acquainted with each other and merge their memories, even if the brain was never able to function well again, just theoretically it should be possible for it to function well enough to "wake-up". Then where would the centre of self go?

Scientific rationale would presumably predict the new being would simply be a mixture of the two memories. However, imagine it was you and your brain that was divided into two. What would become of your perspective, your unique window on the universe? That innermost being that we identify with as our self that cannot escape sensation, pleasure and pain -- that "me" -- where would it end up? Is it indivisible, or would it appear in both destinations?

If the preceding thought-model experiment (halving the brain) sounds all a little bit too macabre, let's revisit our earlier computer comparisons[2]. Consider the same logic applied to a massive supercomputer. Perhaps this would be a computer program that has managed to tie in all the computers connected to the Internet[3] and make them act as one super intelligent force. As previously postulated in 2.2.1 "Experience and Computer Comparisons", it is reasonable to consider this might even exceed the intellect of the average human being if programmed properly. Were this program to either evolve or be programmed to act as a being, then we can wonder where it's centre of "being" was located and whether or not we could tamper with it, move it, merge it, halve it.

It might make it easier to relate to such a program if we visualise a potentially realistic scenario. If all the intellect in all the computers were to split up into smaller beings or clusters, perhaps each one occupying 100,000 computers, each cluster could then compete with other splinters of itself and the best of these would go on to reproduce itself (just as in evolution). Each "being" could move portions of its intelligent self in and out of computers so as to move itself round and be relatively unaffected by individual computer based "neural-cells" being switched off.

These neural network clusters could either be programmed or evolve emotional responses in order to have a higher understanding of its place and therefore be more resilient. For example, a fear of death or decay would be a good survival "instinct". An inclination towards grouping with other clusters to defend itself against remote aggressive clusters (perhaps clusters in one country competing with clusters in another) would also be a good thing for survival -- a cluster should therefore be inclined to adopt all the emotions that assist us humans in communal/tribal grouping, such as compassion and love.

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[1] http://en.wikipedia.org/w/index.php?title=%C3%89lan_vital&oldid=340392345

[2] See also 2.2.1 "Experience and Computer Comparisons"

[3] eg: The Lawnmower Man (film) -- a 1992 film written by director Brett Leonard and producer Gimel Everett loosely based on the Stephen King Short story of the same title.
http://en.wikipedia.org/w/index.php?title=The_Lawnmower_Man_(film)&oldid=336453304

Now perhaps we can more readily imagine this to be a realistic scenario. Where it is assumed consciousness is neurally bound, such a computer network should contain sufficient intelligence to act as though it were awake and conscious.

Then if so, where would such a being have the centre of self? To understand this question, we must look inside ourselves and ask what is it within us that is accepting sensations of pleasure and pain. If one supposes that it is nothing in particular but electrical activity between brain cells or similar, then one must accept that the neural network clusters described above must be somehow able to accept sensations of pleasure and pain.

So now we have a hypothetical machine, a "thought-model" of a machine, that would sponsor a similar consciousness to our own, and if you can now consider that YOU were one of those machine clusters, and somebody split your network and reassembled you in combination with other networks, where would the centre of YOU go?

This is something that Simon Blackburn calls "scrambling the soul" in his book "Think"[1].

> The book as referenced contains a passage titled Scrambling the Soul in the 4th chapter. At first, Blackburn quotes an analogy used by the contemporary philosopher David Lewis -- the analogy being "a road that splits" (page 145) regarding a human that is basically cloned by a "scrambling operation". He says an observer is not that bothered about which one becomes you, "But from your standpoint, it might seem the truth is crucial. Either you will spend next year in the cold, or in the heat, or you will not survive at all. These are just three crisp options".
>
> In the next paragraph, Blackburn says "But I think I can promise the reader that the idea of those three crisp options is very hard to suppress. Thinking can help, but it is hard for it to destroy the illusions of the self."
>
> It should be noted that at this point Blackburn and the views of *Awoken Evolution* part company. *Awoken Evolution* only includes this quote to emphasise the philosophical tradition of analysing what it is to be an individual-self by pursuing indeterminate positions as so well elucidated with the term "scrambling the soul". However, Blackburn goes on to refute the validity of this thought process. For the inquisitive reader, we should include a brief summary of his thinking..
>
> > At the end of the passage (page 147 to 148 just before the fifth chapter) Blackburn continues "Once the facts about which current living human animal is going to be present go vague and indeterminate, then facts about who now is going to be present then go vague and indeterminate as well. Our propensity to think otherwise is an illusion. It might help to dispel the illusion to remember the reason why Hume could not find his 'self', and why the Kantian explanation of the need to think in terms of a self at all gives us a purely structural motivation. [And so on.]"
> >
> > Although we include the sentence about Hume and Kant to illustrate Blackburn's depth of expertise on the subject, we will presume to keep things simple and not involve other entire philosophical constructs. Simply put, Blackburn adequately posits the problem but appears to draw a disagreeable conclusion based on paradoxical notions of "illusions of the self" and illusions in general. There can be no such thing as "illusions of the self" -- I cannot fool myself into thinking I exist or do not exist. The self is what "I" use to judge all of reality from. If myself (my "self") is an illusion then what is there left to be deluded? If free will and consciousness is an illusion, what is being deceived? This is more fully explored in the later passage 6.3.2 "Free Will Revisited". To start trying to imagine ourselves as illusionary objects outside of the very centre of self that is inside the thought process of imagining ourselves is paradoxical to say the least.

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[1] "Think" by Simon Blackburn, p144 in passage "SCRAMBLING THE SOUL", full title "Think: A Compelling Introduction to Philosophy." (1999) ISBN 0-19-210024-6 and ISBN 0-19-969087-1. http://en.wikipedia.org/wiki/Simon_Blackburn.

> > To be fair, Blackburn leaves room for the other possibility as well, albeit in a somewhat jaded tone: "So the 'real distinction' Descartes thought he had proved -- Cartesian dualism -- does not die easily. The reader is free to try to protect it against the line of thought of this chapter and the preceding two. For what it is worth, Kant himself tried to leave room for the immortality of the soul. His rather feeble reason is that we need to suppose that goodness brings happiness, and since it does not do so always or even reliably in this life, there had better be another life in which it does. Then people get their just deserts. Most philosophers think that this is not Kant at his best. But the religious domain then certainly affects the thinking of many people on this matter...."
> >
> > Perhaps the reader can begin to see why we avoided involving Kant! We look more at what Blackburn has to teach us in a later passage, 6.2.1 "Who Was Descartes?".
>
> As we started out noting[1], it is much more helpful if we identify "self" as inextricably linked with the sensations of pleasure and pain. Pain is not an illusion, and therefore neither is "self".

Regardless of any opposing conclusions one could draw at this point, "scrambling the soul" is a marvellous title for the thought experiment of trying to determine where the individual soul lies. It is one of many philosophical processes by which we start to see a distinct individual-self that has no clearly defined connection with the flesh.

We continue the theme of scrambled souls in later passages, but for now, what else can we discern from modelling consciousness in computers?

Consider music as a sensation which is associated with consciousness and consider how that might work in the preceding thought-model. We assume that the brain takes mathematical pleasure in processing the music in just the same way as computers are commonly storing, categorising, compressing and decompressing music. However, when we are asleep listening to music, the brain must be circulating and processing the music because we often awaken if the music stops or if someone's voice interrupts, and yet that part of us that gives us consciousness is dormant. Thus, there must be separate processing and pleasure sensing areas within the brain.

How could we engineer the computers hypothesised above to take pleasure in the processing of music? Where would these separate processing and pleasure sensing areas be then? Perhaps if we programmed our computers to have their ability to process music contribute to their chances of reproduction as grouped entities?

None of this helps us to imagine how we could locate, fabricate or manipulate that substance or surface upon which beings must register their quintessential conscious awareness, that phenomenon we glibly call consciousness.

Moreover, even though programmers have the potential for complete access to the processes in a computer network, how would it be possible to know if that computer network had achieved consciousness? How would we know if it was genuinely awake or simply processing "on idle" just like we do when we are asleep? The question becomes even more significant when we first grapple with the fact that we would have to be able to define consciousness before we can test for it, a conundrum we first examined in the passage 1.3 "Is True Sentience Possible?".

Descartes gives us a framework that allows us to define consciousness within ourselves by describing dualism. Furthermore, we can then test this theory by observing our own ultimate reality that we continue to possess even when we close our eyes, by differentiating our inescapable inner reality from the lesser reality of our environment. However, this framework does not allow us to define consciousness in another person or being because we cannot observe it from within another. Of course a doctor can establish whether or not a person is conscious based on some rudimentary tests, but even a doctor has no magic probe with which he can prove it, and in the case of an hallucinating or apparently comatose person, such distinction becomes as important as it is difficult[2].

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[1] See prior in this passage, paragraph 4

[2] for an introduction to such neuroscience, see: http://en.wikipedia.org/wiki/Neural_correlates_of_consciousness - as also mentioned below

Returning to our hypothetical machine, we instinctively feel artificial logic to not be awake. We feel it to be the kind of unconscious logic we possess in our cerebellum[1], the small part of the brain that keeps us functioning during sleep, or indeed the kind of unconscious logic that drives dreams in the cerebrum before they occasionally enter into the conscious realm. However, there is nothing in science that can find or define the substance of human consciousness other than elevated brain activity. Similarly, we cannot test, establish or prove the difference between a sleeping machine processing on idle and an awoken machine with artificial consciousness.

And so we must have a definition for consciousness and a test for consciousness if we are to differentiate between humans, animals, insects and machines. The problem is that there is no such definition or test for consciousness, notwithstanding the rudimentary medical tests aforementioned. One cannot easily substantiate something that doesn't physically exist, but for those that would like some external confirmation of this statement, one might consider the debate that arises within the subject of Neural Correlates of Consciousness -- "A science of consciousness must strive to explain the exact relationship between phenomenal, mental states and brain states. This is the heart of the classical mind-body problem"[2].

Specifically, this lack of definition or test exists even in complex machines such as the hypothetical machine we describe here despite the unparalleled access we have to observe the flow of electrons, the state of its memory interaction, its environmental connectivity, etc. We may be able to prove that it has environmental connectivity, that it is capable of self preservation, that it judges and considers far-reaching consequences, that it displays a reaction to its dilemmas in a way that parallels our emotional displays, that it reacts to stimuli in the same way we react to pain, and from this proof we may conclude it is conscious, but such a conclusion is at best a presumption. At worst, we cannot test for it, and if this hypothetical machine were a grand network, we could not even pinpoint its epicentre.

When we look at the possibility of a network as large as the Web containing software that works in clusters and encourages consciousness, ie: able to compute self-awareness, analysis, perspective, a desire for survival and procreation, competition, mortality, pain, fear, etc, then we start to have an attainable thought-model within which at least some kind of consciousness is possible.

Firstly, if we assume consciousness is not possible on the reasonable basis that we can't even test for the difference between being asleep & awake in such a large networked computer system, then we have rather proved the point that consciousness is not simply explained by scientific rationale.

However, in the right circumstances it should be possible for our networked computer clusters to each understand their own perspective and gain an appreciation of self, thus acquiring a conscious awareness, a genuine awakening to the sensations of pleasure and pain through concepts of progress and destruction. Assuming such consciousness did exist within our networked computer clusters, we can then easily see how we could scramble that consciousness by splitting it and moving it around. It would merely be a question of moving software packages around, or perhaps for completeness, moving around computers.

Then it should start to become quite easy to understand what would happen to that consciousness. Regardless of how much scrambling occurs, the resulting consciousness at any particular waking moment should be the sum of the activity in an awoken cluster, reliant on the memories, sensations, temptations and warnings (pleasure and pain through anticipated progress and destruction) available to it.

That seems all fairly straightforward but the simplicity of it evaporates when we try to imagine such a consciousness was our own consciousness. It's hard to imagine a computer's consciousness being as vivid as our own so we will simply assume for the moment that its consciousness is, for arguments sake, "my" consciousness. If it was my consciousness in that computer cluster that was then scrambled, where would I wake up? Would I wake up in all the recipients of the scrambled components of my original cluster?

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[1] "the cerebellum does not underlie any conscious perception, and thus is not part of the NCC" from http://en.wikipedia.org/w/index.php?title=Neural_correlates_of_consciousness&oldid=323307440

[2] from http://en.wikipedia.org/w/index.php?title=Neural_correlates_of_consciousness&oldid=323307440

What of the original conundrum we started with earlier -- what would happen if we halved it? For completeness, we might assume that after the halving, the clusters were restored to their original capacity for thought. Where would I then wake up? Neither or both places? If "my consciousness" was in neither place, I would effectively die out leaving two clusters that resembled me but were not me. If "my consciousness" were in both places, I would absurdly be able to feel pain in two different places at once, but at each given instance of thought or perception, I would be unaware of the other "I".

Almost as an aside, it should be noted that there is a third possibility where "my consciousness" simply goes one way or the other depending on chance. This would be to defy the logic of the actual experiment itself. That is to say, we assumed at the outset that the location of consciousness was indeterminate in that it was reliant on thought activity throughout the cluster or brain. We also assumed at the outset that we could halve the broad location of where that consciousness existed. To presume that at the moment of halving, a specific consciousness (or "my consciousness" in the example we are following) was in one half or the other, would be to attribute consciousness to something physical. That gives us many conundrums. It would mean we should be able to easily discover what that physical matter was and even relocate it. It also brings us back to the uncomfortable conclusion that ghostly consciousness is trapped after death as we noted in the prior passage 1.6.1.1 "The Mechanics of the Experience-Moment". As we progress, we will of course delve further into the problems associated with trying to attach consciousness to specific locations.[1]

It is that single waking entity within ourselves, and potentially within such a computer cluster, which defies rational explanation. If we relied upon a metaphysical explanation, we could easily imagine a foreign metaphysical singularity, commonly known as a "soul", that breathes life into either ourselves, a computer cluster, or any being worthy and capable of consciousness. When we rely on rational empirically based explanations, we constantly end up with absurdities.

The only way we can prove such a machine is conscious is to briefly "be" it's consciousness, for us to move our perspective and find ourselves within or sharing the perspective of such a machine. Unfortunately, no one has ever achieved this except in the imagination, and so it cannot stand as a reasonable definition or test. Furthermore, no one has ever even achieved this movement of perspective into another person's consciousness.

We have little doubt that Artificial Intelligence is attainable, even with us now, but Artificial *Consciousness* (as opposed to artificial intelligence) is not only beyond our grasp, we have no test for it, nor even a satisfactory definition to which we can test against. Furthermore, as soon as we start to attribute location and substance to consciousness within the absolute knowledge of its existence within ourselves, it defies logic when we attempt to experiment with fragmenting its location.

So now we have re-examined Sentience, let's revisit Sapience again...

2.3 Cause and Effect v Free Will

What is free will? It's much more than simply making choice. Computers make choices by taking the sum of information fed to them and constantly computing a result. Nothing is added to in the flow of cause and effect. The outcome is the product of the inputs and nothing more.

Human free will is different. Of course, most of our choices are automatic and no different to computers, but as noted prior[2], there are times when we feel ourselves to exert the effort of moral dilemmas, to be motivated towards a better decision, to strive. That kind of free will is different. It is that indivisible moment in time between the future and the past, that crest of a wave that we ride, exercising free will as if we can intercede in the course of unyielding flows between cause and effect. We appear able to surf up and down the face of time, to direct our own plot, to be able to knit together what has happened with what will happen. We appear to be granted the ability to change the course of history.

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[1] Eg: 7.2.3 "The Queen Cluster theory"

[2] See earlier passage 2.2.1.3, "Sapience & Sentience, the Link", paragraph 12

Is that possible? How can energised and animated matter such as ourselves exercise Free Will to make responsible choices between good and evil, as for example is required by law[1] in the case of Mens Rea, when choice is simply a mechanical process weighing the options and selecting the direction of least resistance? How can it be presumed that we can truly know the difference between good and evil and be punished for the latter?

Of course there are those who would argue that we simply can't escape the chain of cause and effect and thus we simply don't have "free-will" but at the very least we can feel the struggle for those choices. This is Determinism[2] being a subject that we will come back to later. For now it is worth noting one of several delineated "positions" (possibilities) listed in Wikipedia[3]... "Immaterial souls exist, but exert no causal influence, free or determined"[4]. And yet, as we first point out in the passage 2.2.1.3 "Sapience & Sentience, the Link" just prior, free will underpins freedom of choice and is something that we are legally obliged to exercise.

This is quite a subject and of course we first touched on it in the passage titled 1.6.1.1 "The Mechanics of the Experience-Moment".

First, let's examine the machinery of thought and the nature of the "closed system" of cause and effect within that machinery. By closed system we refer to the principles founded in the First Law of Thermodynamics[5] giving rise to the fact that the laws of physics cannot rationally be externally influenced or added to, whether by the metaphysical, mystical or other, except by quantifiable environmental factors. To examine this, we need to in turn look at how logic works by discussing the parallels between wet logic and dry logic, between the brain and the computer once again. Such a "dry logic" computer parallel will be useful to help us analyse wet logic because a computer is much easier (and less messy) to analyse.

Within a brain we have neuron cells connected by dendrite cells and all manner of other structures that need no examining in great depth here. The main thing to note is that neurons have inputs and outputs. Each neuron processes its inputs and provides compound resulting outputs. It is reasonable to assume that the processes that they perform are no different to a group of computer silicon gates. Many silicon gates are combined within a computer to provide a processor. Modern desktop computers have very complex central processor units but if we imagine the simple processor that can be found inside a washing machine for example, then we have an approximately comparable unit to a neuron.

When we examine the gates in a computer processor, the simplest gate combines two inputs and produces a single compound output depending on what the state of the two inputs were. For example, an OR gate requires a positive input on either of those two inputs before a single positive output is given. If neither of the inputs is positive, there will be no positive output and the gate's output will thus be negative. All gates within a computer are based on this very simple logical cell. If the gate uses reverse polarisation, it becomes an AND gate. Computers perform a marvellous trick by combining billions of these gates to create the illusion of logic. For example, memory in a computer is based on retention of a previously positive or negative state. A latch will hold or "latch" the previous state on demand. The simplest latch is an OR gate with its output fed back into one of its two inputs (which we will call the "feedback input"). Computers use millions of these gates to retain billions of "bits" of data that can be used to represent pictures and text etc. It should be noted that there are different types of memory, but this basic latch technology is the core ingredient of simple computers and demonstrates how the humble gate can be extrapolated to perform virtually any logical task.

Technically, there is only reaction. There is no such thing as spontaneous action within a processor nor within the wet-logic computer that we otherwise call the brain. Pro-active activity or spontaneous action is only delayed and refined reaction. In the example of the logical gate previously described, the output can only be changed when the input changes. An input can be stored and then combined to give a refined change of output later, but there is always a relationship between output and input. In wet logic, we introduce a great deal of random modification and deterioration into the thought process, but that randomness is nothing more than another input, another cause to effect the outcome, another factor to obtain the computed reaction.

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[1] See also 6.3.1 "Legal Obligation to Believe"

[2] See also "Philosophy Reference"

[3] http://en.wikipedia.org/w/index.php?title=Determinism&oldid=225600223#Minds_and_bodies

[4] http://en.wikipedia.org/w/index.php?title=Epiphenomenalism&oldid=352582116

[5] See "References"

Later on, we will show how even principles and virtues are simply inputs as well. It doesn't matter how complicated we make this, it is just multiples of complexity applied to the same basic mechanics of computer gate. A person cannot be kind or evil, benevolent or malevolent -- a person can only make the actions that are preprogrammed by environmental factors including genetics and random intervention, no matter how complex! What a person cannot do is what we presume we can all do which is to somehow intervene and apply some metaphysical attribute of love, hate, selflessness, selfishness, motivation and proactivity etc.

Thus, analysis of cause and effect within logic demonstrates that we have no freedom of thought. If we go with those who would argue that we simply can't escape the chain of cause and effect, then maybe we do conclude that free-will is an illusion, but without a doubt we feel ourselves to be exercising free will. Let's consider that in more depth -- if we do agree that we feel that we have freedom of choice, and yet we don't actually have freedom of choice, then there is an illusion taking place. In that case, what is it within us that is fooled into thinking that we have freedom of thought? What is that illusion acting on?

Of course Free Will is a pivotal topic in this dissertation and we will come back to it many times.

For now, we can hopefully agree that the apparent impossibility of free-will raises another looming absurdity in an overly rationalised universe.

3 What Are You?

"Self: The elusive 'I' that shows an alarming tendency to disappear when we try to introspect it." -- The Oxford Dictionary of Philosophy.[1]

This topic, discovering who and what you are, dominates throughout *Awoken Evolution* because it is necessary to first identify "The elusive I" before we can start drawing conclusions about it.

Having examined the questions that arise out of the improbabilities, implausibilities and downright absurdities in the rationalised explanation for our existence put before us, and having had a primer on the subject of quintessential conscious awareness, this chapter now focuses on the inner self from the personal perspective. This shift in emphasis is necessary to allow us to grasp the certainty of the inner self so that we can establish its importance as evidence of a need for alternative answers.

3.1 A Little Story

A few decades ago, something happened. It was a fairly unremarkable day when around the globe about 5000 babies were born as with most days around that time. Nonetheless it remains a very pivotal day in my calendar. What made this day special was it was the day I was born. For me, that was the day reality started. From my perspective, before that there was no reality.

People were born in their thousands each day before then and each day after. But not me. It was very different that day -- that was the day I was born. I wasn't born any other day, just that one.

Naturally enough, I don't recall achieving any kind of genuine awakening, any sensation of memory formation or recollection and so on, until I was about 15. Apart from the odd memory, perhaps the first vivid moment of existential awareness came when I realised I couldn't escape my appendicitis pain at the age of 11. I've been stuck in this body ever since. Sometimes happy, sometimes not -- but at all times I've been here in this particular body that began its existence approximately nine months before it emerged from the womb.

All those billions of bodies out there -- who knows what it's like, who can guess what it's like to be in those bodies? We all have instincts and compassions that give us insight as to what's in those other bodies that surround us, and I am no exception, but none of those billions of bodies are special to me -- just this one. So, how can I describe it to you?

To describe organisms like me, it might help to consider a metaphor describing this body as an automated train. Life is far from free, it is confined to railroad tracks of cause and effect. I am confined in my destiny to what is possible within the bounds of that which is socially acceptable and attainable within this body.

To further this analogy, we shall choose an automated train such as London's Docklands Light Railway. We avoid the analogy of a train with a driver because that abrogates the reactive nature of our lives to another human being whereas with an automated train, we can relate to ourselves as being machines.

From the perspective of an outside observer, there is nothing special about this train, it is simply programmed to react to door switches, position switches, timetables, and to perform as required.

In my train, I could look at other trains and were I granted sufficient tools to analyse, I would be able to understand how their guidance systems work -- after all they are on their own rails of cause and effect, just like me. Their starting and stopping seems to be fairly automatic just like mine. If there is an exception such as something preventing a door from closing, these automatic trains react and reopen doors correcting the situation as necessary, compensating with different accelerations to reach required journey times and continuing as before where possible. Likewise, as a human being, I react to exceptions as well, and similarly any reaction I exhibit is limited to the sum of my choices which, like a train, are surprisingly limited. Even in life's wider choices, I am guided by my hardwired desires and environmental conditions. For example, I may feel I am choosing an interesting career, but ultimately the desires and environment that led me to that choice were governed by prior railway tracks. My choice becomes as obvious as the automatic settings of a set of train track points, determining my future railway journey until the next set of points.

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[1] From Philosophy Dictionary "self" on Answers.com. The Oxford Dictionary of Philosophy Copyright © 1994, 1996, 2005 by Oxford University Press. Published by Oxford University Press.

But what is it that is riding in *This* train, in *My* body?

My train is very different -- because I am inside it driving it. When something goes wrong with my train, I know about it, I find out about it, I care about it, my existence and my reality may depend on it. I guess that's what happens in other trains but I can't be sure because in this analogy, I've never stepped out of my train. In this reality, I can't step out of my train.

The rail engineers of this analogous world are not interested in the train driver, just as a scientist seems oblivious to the centre of my being that receives all my sensations. Perhaps, because the train is on rails and its starting and stopping is automated, they can reason away that a driver isn't necessary and doesn't exist.

Perhaps I am like a passenger who moves up the front of my train and sees and senses everything about the train, even pretending I am controlling it. Perhaps I am just an observer inside an automatic train, or as I prefer to think, I am the supervisor of this purely automatic train. Just as surely as a train is nudged in the right direction by its track, my body is nudged in the right direction by sensations of pain and attraction, cause and effect.

And this is what it feels like to be me. Other people, especially scientists, look at me objectively in the third person and find I am explainable. I am predictable trundling along my tracks, the sum of my parts, reacting to events in no especially unpredictable way. Yet this body, this train, is different. When something hits it, I feel it. When it dies, I die, and on the face of it, for me reality will then cease.

The point of this passage and this metaphor is to examine what it's like to be the consciousness inside the body someone else observes, to feel myself willing the body to act one way or another in a manner that might be observed as simple reactionary behaviour, and to demonstrate the stark difference between first person and third person analysis of such a consciousness.

As we progress through this chapter and book, especially in the next passage, we will continue to drive home the folly of explaining humanity through the eyes of third person analysis. Science is geared up to observe, gather evidence, create theories, test them and explain phenomena so that we have knowledge. Science is a logical discipline that can only retain its discipline by observing, gathering evidence and testing. Unfortunately, all of these things demand third person observation, third person evidence gathering and third person testing of theories, without which there can be no discipline of thought. And yet this is to overlook so much about what it's like to be the actual subject under analysis. It is only in the first person that we can begin to comprehend the full impact of what it is to be a human being with consciousness. To continue observation strictly in the first person, what we observe as that first person is personal to each of us, so much so that sharing the observation can be difficult and often becomes the stuff of philosophy, art and even poetry.

At the centre of self, emotions are raw, all-consuming and motivating. Ecstasy is exquisite temptation and agony is overwhelming compulsion. Both of these extremes of influence, whether psychological, emotional or physical, can drive us to extremes of behaviour. All too often, third-party observers, without the benefit of firsthand observation of these influences, come to ignorant conclusions, such as for example those who decry the apparent illogical or selfish behaviour of anorexia sufferers, self harmers, abusers who were themselves abused, and so on.

As I learn to understand my own sometimes extreme influences firsthand, I increasingly understand and feel the pleasures and pains of those around me. With the help of education I even seem able to reach back before my birth and empathise with the joys and anguish of the millions who struggled against each other and against nature as humanity developed. I can even feel the future, the goals and pitfalls of my children and all children, and I do everything I can to assist them, perhaps as an extension of myself. The more I learn to understand myself firsthand, the more I find I can understand others in a way that would not be possible observing them in the third person.

At the centre of my universe, my personal perspective stays with me at all times. When I die, I will be parted from this universe and all its struggling millions. This body will no longer participate, no longer care and no longer know, nor will it ever know of anything ever again. Or so I am led to believe by the rationale I am immersed in. Can my perspective, something as profound as the centre of my universe, vanish at death as if by some cheap magic trick? And if my knowledge of the universe's existence ceases, can the universe itself continue to exist?

When I consider life and death and try to come to comprehend the pending annihilation of my own existence, it is even more difficult to put into words what it means to be alive and to have a soul. This is not about trying to draw comfort from believing in a religious afterlife, this is about trying to come to terms with the incomprehensible. I try to imagine how an existence can be extinguished and I find myself shuddering, not through fear but through the illogical chasm that opens up before me. To use words to describe what it would be like to be an existence that ceases to exist, it is necessary to become almost poetic. Perhaps that is why personally I feel my inner self, my soul, to be no less than a dimension. That is to say, each and every one of us souls is another dimension to the universe. It may appear that we are just organisms when observed from the third person, but when I consider my own inner vitality, it seems more appropriate to consider myself and all other souls as different dimensions providing different perspectives on the universe. Dimensions have no beginning and no end, they exist as a concept.

And another thing, it is wrong to say that "I have a soul" because I feel very strongly that "I am a soul". It is my soul that owns my body, not the other way around. A surgeon can cut away as many bits of me as become necessary, but it is I, my soul that remains at the centre of my physical being until such time as it finally departs, until such time as "I" finally depart.

What am I? Am I a train? Am I on a train? Am I a human? Am I in the body of a human?

Something happened to the universe back on that day a few decades ago.. I found out that there is something called a universe that exists, and I found myself to be in just one location, my body, my train.

3.1.1 Empirical Evidence of Life Force

On the face of it, consciousness is simply the difference between being asleep and awake. The scientist will observe that humans and animals shutdown during a phase called sleep. Drugs can be used to induce sleep and brain scans can confirm that a reduced level of brain activity occurs. When the brain is awake, the subject becomes mobile and more active. The subject will enter into a variety of emotional states or moods, reacting to stimuli and events. The more intelligent organisms such as humans, great apes, elephants and dolphins, have developed complex "tribal" interactions including teamwork, cooperation, concern, care and love, which all help to advance pockets of the species that in the case of humans may be called "tribes". Pleasure and pain simply become factors that motivate, warn or educate. When an especially advanced organism such as a human introspects itself, it can feel it's own awareness, study it and analyse it. A brain simply becomes engaged in the process of looking at itself instead of looking at the environment.

Indeed, when looking superficially at things from the *third person perspective*[1], consciousness is relatively straightforward.

However, once we stop remotely examining "life" in the third person where we examine the actions and reactions of others as remote specimens, once we look inwards and examine our own individual life force, our own experience and awareness, we find something remarkable. When "I" am the subject under observation, I find myself to be the owner and ultimate destination of my pleasure and pain, joy and sorrow. Certainly, I find myself reacting to pleasure and pain in a predictable way when observed by others, but there is something more vivid than that third person observation reveals, something about the inescapability of sensations that give experiences an elevated vitality.

When observed so intimately, we note that a mixture of clay[2], energy and time gives rise to a cellular machine that cradles a life force, a force that cannot be externally observed but a force that is the ultimate reality to the individual, so real to "me" that its perception of reality creates reality, without which reality would have no meaning. We find that its power of observation creates an observable universe without which the existence and reality of the universe could not be verified, judged or known. This is pure sentient knowledge[1], without which the universe would be eternally asleep. This is the *Internal Observer*.

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[1] See earlier passage 1.5, "Four Questions", paragraph 32

[2] See also 4.2.3.1.2 "Clay Crystals"

Unfortunately, the scientific principle of using Empirical Evidence depends on Observation[2] and, because we cannot observe this level of life force directly in others, life force is not so readily entered into empirical evidence.

The nature of empirical evidence is that it is something that must be shared -- one person provides the evidence in order that another can observe and verify it. If only one person observes something, that observation is said to be unverified because that person may be mistaken or even fabricating the observation. Shared observation is pivotal to agreeing the validity of evidence, pivotal to proof.

Empirical evidence thus relies on *shared observation*. One cannot reveal the experience of their own life force in such a way that another person can observe it, except perhaps through emotional talk such as connection and compassion which lacks evidential credibility due to its nefarious nature. So we look objectively and remotely at each other and explain what we see in mechanical terms such as action and reaction, whilst ignoring the validity of our individual life force within. Without shared observation, the process of scientifically disciplined thought finds itself redundant. Weakened by the absence of shared observation, we have no ability to agree this awareness.

It is true irony that shared observation, so important in scientific process, in turn relies on the *Internal Observer* to give rise to true epistemological scientific knowledge,[3] when we note that this very same *Internal Observer* cannot be the subject of *shared observation* by the very same scientific process it serves to validate[4].

Nonetheless, the process of scientifically disciplined thought is a crucial tool for the reliable advancement of knowledge. It simply needs enhancing with deduction and theoretical reasoning[5]. It is granted that before any theory can be embraced scientifically, it must be demonstrated by practical experiment. In this regard there is a glimmer of hope because the practicality of our life force is all around us.

Given that science has not yet evolved to the point where we have access to logical tools beyond philosophy to analyse issues starved of empirical evidence, it is difficult in the extreme to even define this life force but nonetheless we each individually have proof of its existence through our individual awareness. Sadly, the finer details of this "fact" are wide open to interpretation, and some form of definition and then empirical evidence is thus called for.

3.1.2 Consciousness Defined

Now we are starting to get a picture of what we are trying to describe and define, we can move forward. Of course, the type of consciousness we are interested in is notoriously hard to define. One contributor to Wikipedia noted that "the failure to produce a workable definition of consciousness also raises formidable philosophical questions".[6] As a starting point, we need to narrow down what we mean. We are looking for a description and definition of the true vivid consciousness that we find when we introspect consciousness within ourselves as opposed to the superficial knowledge of consciousness we observe in the third person.

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[1] See epistemology: http://en.wikipedia.org/w/index.php?title=Epistemology&oldid=361198833

[2] http://en.wikipedia.org/w/index.php?title=Empirical_research&oldid=355975116

[3] Ie: epistemological True Knowledge: See epistemology: http://en.wikipedia.org/w/index.php?title=Epistemology&oldid=361198833

[4] For the purist, some subtext should be added acknowledging that such an argument is not complete. The non-theist might argue that an equal level of scientific knowledge is attainable through shared observation without any special Internal Observer, but one could equally argue that such Superficial Knowledge would have no motive and no point without being internalised and elevated to the level of epistemological true knowledge.

[5] example: http://en.wikipedia.org/wiki/Speculative_reason

[6] Consciousness - Wikipedia http://en.wikipedia.org/w/index.php?title=Consciousness&oldid=412684364#Philosophical_criticisms

Of course we are not just talking about waking consciousness as opposed to sleep and coma. One of the obstacles to defining introspected consciousness is a reasonably descriptive title for it. The title that will spring to most minds is the ubiquitous "self-awareness" but this well worn phrase only encapsulates a fraction of what it's like to have such consciousness. "Spirit" and "soul" are closer but draw upon religious connotations that are unhelpful for our analysis.

In the prior passage 1.4 "Source Of The Experiencer", we established a clear description of a Quintessential Entity residing within our bodies that we summarised as our "Experiencer and Judge". We called it *Quintessence* for short and gave it to mean our Quintessential Conscious Awareness, the Sentient Experiencer & Sapient Judge within.

We borrowed the somewhat indefinite word "Quintessence"[1] in the absence of any other word to attempt to encapsulate the full force of the phenomenon we are attempting to relay in *Awoken Evolution*. This word also gives us a prefix that we can add to those more commonly used words such as consciousness, experience and sensations. Thus, "quintessential consciousness", "quintessential experience" and "quintessential sensations" are all phrases that can refer unambiguously to the reality of these things as we experience them firsthand within ourselves.

The purpose of this passage is to look at the validity of our choice of words, examine other more worldly terminology, justify it and modify or improve it.

First, let's consider the following dictionary definition for Consciousness...

- The American Heritage dictionary:[2]
  1. The state or condition of being conscious.
  2. A sense of one's personal or collective identity, including the attitudes, beliefs, and sensitivities held by or considered characteristic of an individual or group: Love of freedom runs deep in the national consciousness.
    3a. Special awareness or sensitivity: class consciousness; race consciousness.
    3b. Alertness to or concern for a particular issue or situation: a movement aimed at raising the general public's consciousness of social injustice.
  4. In psychoanalysis, the conscious.

The problem with (1) is that it is circular, and (2) onwards where relevant, we are given products of consciousness rather than components of it. Furthermore, the range of definitions given highlight the ambiguity of the word and go some way towards vindicating our decision to supplement it with the word "quintessence".

Given that dictionaries are not helping much, can we look to science to find some kind of simple description or definition of consciousness upon which we can build? After some searching, there appears to be little except perhaps in Wikipedia which takes more of a philosophical than scientific approach as follows....

> Wikipedia, March 2011: Consciousness is a term that refers to a variety of aspects of the relationship between the mind and the world with which it interacts. It has been defined as: subjectivity; awareness; the ability to experience or to feel; wakefulness; having a sense of selfhood; or the executive control system of the mind. Despite the difficulty of definition, many philosophers believe that there is a broadly shared underlying intuition about what consciousness

---

[1] 1. The pure, highly concentrated essence of a thing. 2. The purest or most typical instance. 3. In ancient and medieval philosophy, the fifth and highest essence after earth, air, fire, and water, thought to be the substance of the heavenly bodies and latent in all things. Abridged; The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2009. Published by Houghton Mifflin Company. All rights reserved. Source: http://www.thefreedictionary.com/quintessence

[2] abridged from: Dictionary "consciousness" on Answers.com. Ref: The American Heritage® Dictionary of the English Language, Fourth Edition Copyright © 2004 by Houghton Mifflin Company. Published by Houghton Mifflin Company. Last sourced 2010/05/13 at http://www.answers.com/topic/consciousness

> is. As Max Velmans and Susan Schneider wrote in The Blackwell Companion to Consciousness: "Anything that we are aware of at a given moment forms part of our consciousness, making conscious experience at once the most familiar and most mysterious aspect of our lives."[4][1]

Note the acknowledgement to the difficulty of definition in this extract. Note also that it seems we know what consciousness is but we lack an explicit definition for it.

In an earlier draft in 2008, a Wikipedia contributor simply opened the description of consciousness as "Consciousness defies definition"[2]. The contributor was possibly referring to New Mysterianism, a philosophical position proposing that the hard problem of consciousness will never be explained[3]. Similar wording such as "consciousness refuses to be defined" persisted all throughout 2010. Wikipedia may not be everyone's choice as a reference point, but as explained at the beginning of this book, at least some form of shared knowledge base is preferable to hearsay.

Of course science has some input into the subject. There is the Association for the Scientific Study of Consciousness (referred to as the ASSC[4]) -- a "professional membership organisation that aims to encourage research on consciousness in cognitive science, neuroscience, philosophy" (etc).[5]. Despite this, as yet it is difficult to find a definitive, scientifically recognized straightforward description that does justice to the phenomenon.

Going beyond our own term "Quintessence" is proving difficult. For inspiration, let's look at other terminology in common use...

- Awareness of Being
- Essence of Awareness
- Cognizance (Eng. Cognisance) [6]
    - Metacognition[7]
- Sentient Sapience
- Life Force, Life force of awoken consciousness
- The Essence of Life Force
- Being & Existentialism[8]
- Incorporeal Soul[9]
- Conscious Awareness
- Conscious Experience
    - Qualia -- a term used to describe the subjective quality of conscious experience[10] [11].
- and Self Awareness (no such list would be complete without this aforementioned ubiquitous phrase)

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[1] approx 2011/07/30 to at least 2011/10/27: http://en.wikipedia.org/w/index.php?title=Consciousness&oldid=457633488

[2] http://en.wikipedia.org/w/index.php?title=Consciousness&oldid=224908593

[3] http://en.wikipedia.org/w/index.php?title=New_Mysterianism&oldid=299424598; See also http://en.wikipedia.org/w/index.php?title=Sentience&oldid=300830178#Philosophy_and_sentience

[4] See earlier passage 2.2, "Who Am I?", paragraph 4 -- (Where first discussed)

[5] See also 5.1.1 "Scientific Treatment of Consciousness"

[6] "Conscious knowledge or recognition; awareness" -- http://www.thefreedictionary.com/cognizance

[7] See http://en.wikipedia.org/w/index.php?title=Metacognition&oldid=288724073

[8] See also "Philosophy Reference"

[9] see http://en.wikipedia.org/w/index.php?title=Dualism_(philosophy_of_mind)&oldid=291190819

[10] http://en.wikipedia.org/w/index.php?title=Qualia&oldid=298747759 - "The importance of qualia in philosophy of mind comes largely from the fact that they are often seen as posing a fundamental problem for materialist explanations of the mind-body problem."

[11] See also 8.2.2 "Qualia & Sentience"

..All these are ways of referring to Consciousness as experienced by human beings. Of these, perhaps the most common is Self Awareness -- but, as we noted at the outset of this passage, somehow it just doesn't seem to do justice to the topic. Over the years it has become so commonly used, the power of its actual meaning is somewhat taken for granted, but the meaning of it, to be aware of oneself, is quite profound and does indeed encompass most of the phenomenon under discussion. Nonetheless, it is too simplistic and jaded by overuse so we still look for a replacement.

Now, in combination with the preceding titles and phrases, consider the following attributes...

- Intense individual experience
    - Non detachable ownership of sensation, pleasure, pain (often inescapable)
- Inescapability
    - *"Wait a minute, there's a snag somewhere; something disagreeable. Why, now, should it be disagreeable?...Ah, I see; it's life without a break"*.. Jean Paul Sartre - Huis Clos.[1]
- Realisation
    - This is a very interesting word. To "realise" something is to turn the awareness of an experience into reality, to turn data into knowledge (as covered by epistemology[2]).
- Unique perspective
    - Each of us is granted the realisation of a view on existence that no one else can see.
- Desire, Want, Free will
    - the realisation of the sensation of motivations and the ability to apply choice
- Self reflection
    - The act, realisation and knowledge of existing

In our quest for defining consciousness, we now have some attributes to go with the preceding titles, terminology, and references in order to help us focus in on what we are trying to define.

There is one thing that is missing from this list. Ingredients. All the above terms and attributes describe the product or results of consciousness, or offer another way of describing consciousness, without specifically describing any of its ingredients or components. Some of these terms and attributes may be loosely thought of as ingredients, such as sentience, but in general are at least equally thought of as the product of consciousness. Where can we find words or concepts to exclusively describe a component or ingredient of consciousness? Of course that is the Holy Grail of any definition -- to be able to break down the meaning of something into simpler concepts, and it is this absence of discernible ingredients that makes consciousness so hard to define.

Crucially, we seek a word or concept that defines an essential component of consciousness that is not also an attribute or a product of consciousness. This is important because if we were to use another word that means consciousness when defining consciousness, we have circular thinking again as we found in the earlier dictionary definition for consciousness above.

Let's try a new word.. let's try "***Sensater***". What do we mean by Sensater? The Sensater is the *perceiver of sensations*. Taken from the word "sensate"[3], we use this word to describe the internal conscious recipient of sensations and experiences and so we sometimes refer to it as the *Experiencer* although we prefer the word *Sensater* so as not to be confused with "experience" within its more superficial role of meaning skills derived from practice and association etc.

What attributes can we ascribe to a Sensater?

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[1] sourced from http://www.thecry.com/existentialism/ but found many places.

[2] http://en.wikipedia.org/w/index.php?title=Epistemology&oldid=308093962

[3] "Perceived by a sense or the senses." abridged from: "The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2009. Published by Houghton Mifflin Company. All rights reserved.". Sourced at: http://www.thefreedictionary.com/sensate 2010/05/13

- Something that raw sensations are connected to and perceived by[1].
- Something that can act on sensations, judging and knowingly interceding between cause and effect.
- Something that can be switched off and on (sleep, death)
- Something that feels pleasure & pain and is compelled to vividly experience it
- Something that can not isolate itself from the pleasure & pain of its host individual entity.

Here then is surely a description of the object within each of us that "is conscious". The ability to sensate or experience is a pivotal part of quintessential consciousness.

Of course this means it could be argued that the Sensater *is* consciousness, but it is more easily expressed as the component of consciousness that "is conscious". In support of this broad claim, consider Qualia[2]. We first mentioned Qualia in the passage 1.6.1.1 "The Mechanics of the Experience-Moment". We later devote another passage to it[3]. Suffice to say for now that Qualia is an academic term for perceived sensations as they appear in the quintessential reality of the Sensater. The point of referring to Qualia is that it can be said the phenomenon of Qualia resists reductionism as we will show[4], and so we attest that Qualia, as the least divisible aspect of consciousness belonging to the Sensater, in turn constitutes part of our consciousness.

Now that we have the words Sensater and Qualia for components of consciousness, perhaps we can arrive at an improved and more definitive description of it..

> *Consciousness,* insofar as the word is used to describe the vivid self-awareness that we find when we introspect within ourselves, may be defined as:
>
> - The mechanism that contains the individual perceiver of sensations, that apprehends sensations. The mechanism that contains the recipient, final destination and ownership of sensations, the product of which gives validity and vitality to sensations. The mechanism that elevates sensations to experiences and gives them meaning.
>
> To distinguish between the word Consciousness in its broader use and the more elevated definition that we give it, we will typically refer to it as *Quintessential Consciousness* or occasionally as Quintessential Conscious Awareness depending on the context.
>
> *Quintessential Consciousness* or *Quintessential Conscious Awareness* is thus defined as:
>
> - The vivid *Consciousness* that we find when we introspect consciousness within ourselves as opposed to the superficial knowledge of consciousness we observe in the third person.
>
> By combining these concepts, we arrive back at our chosen word: *Quintessence*. Insofar as the word is used in Awoken Evolution, *Quintessence* is defined as a secular word for "spirit" or "soul" from which we derive other commonly used terms throughout including: the *Quintessential Sensater*, or the more worldly term: *Quintessential Experiencer*.

Finally, we could summarise *Quintessence* as the "life force of awoken consciousness", a state-of-being that validates sensations and experiences including pleasure and pain but especially those experiences which are vivid and undeniable such as ecstasy, joy, bliss, and at the other end of the spectrum, anguish, grief and agony. It may be noted that these words mostly have no meaning at all to a universe devoid of consciousness.

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[1] Perceive: "1. To become aware of directly through any of the senses, especially sight or hearing. 2. To achieve understanding of; apprehend." abridged from: "The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2009. Published by Houghton Mifflin Company. All rights reserved.". Sourced at: http://www.thefreedictionary.com/perceiver 2010/05/13

[2] See citation above

[3] See also 8.2.2 "Qualia & Sentience"

[4] See later passage 8.2.2, "Qualia & Sentience", paragraph 6 -- where we reference Nagel

Now that we understand more precisely what we are looking for, having distinguished *Quintessential Consciousness* in particular from the superficial knowledge of consciousness we observe in the third person, we can continue researching and examining its more abstract and obscure properties. We can now go in search of that Quintessential Entity residing within our bodies that is our **Quintessential Conscious Awareness,** the **Sentient Experiencer & Sapient Judge** within.

3.1.3 Anecdotal 'I' Evidence

"How will I know if or when I'm dead?" This is wonderfully representative of the paradox that is life. With the conceit of total narcissistic introversion, one could go further -- *"As far as I am concerned, the universe is mine and life has no beginning and no end for me".* Continuing in this first person perspective, "yes I should be humbled when I consider that there was a time when I didn't exist, but I prefer to think of that as a memory that I have no access to, as though I were asleep. *Whilst memory can fade as my body fades, '**I**' can either only be conscious or unconscious. If 'I' could completely cease to exist, reality itself would surely be ruptured and the universe might cease to exist along with me."*

No shortage of humility there you might rightly interject, but casting aside the egocentricity, this seems to be the default basis for that obscure property within, from which we each radiate our being. We are quickly reminded of our mortality when we suffer pain or experience mortal fear, but in the normal course of events, such stimuli and emotions are rare and remote. We feel we are inextricably linked with reality, on a par with all of existence. This is why in the passage 3.1 "A Little Story", we refer to the inner self as "no less than a dimension". Each and every one of us is another dimension to the universe. Dimensions have neither beginning nor end but simply exist as a concept rather than a material item.

Whilst unapologetically narcissistic, this begins to describe the veracity of "being a quintessential consciousness" in a way that is maybe even sufficiently compelling for a soulless artificial intelligence to understand. When faced with death, our own or that of a loved one, fear is obvious but there is also an irreconcilable revulsion, a disparity, a strong sense of disbelief. This belief in self that can be thought of as "dimensional" goes some way to explaining our revulsion at the illogical idea that we can somehow cease to exist. This is a revulsion that a soulless intelligence could not share but may begin to understand when conscious life is ascribed this dimensional capacity. To lose a loved one is to lose access to a dimension. To be that one who is "lost" is first of all paradoxically impossible because you cannot be something that has ceased to be. However, if we consider that lost dimension to simply be dormant, inaccessible or withdrawn without having completely ceased to exist, then we satisfy an innate subconscious demand for logic as opposed to the revulsion that we feel when confronted with a seemingly impossible paradox.

And *"How did **I** become Me?"* -- This is another indescribable aspect of being alive. Why did the universe choose this body to belong to me? It seems as though "***I***" chose Me or was pushed into being Me. This is the inexplicable phenomena we observe and yet are unable to reason away.

The non-theist might argue that I just "*am*". Like a chicken that hatched, it is that chicken, like a rock is an inert object that just "is" a rock, I exist and therefore I "*am*".

But then I become confused when I consider that I might just as easily have been that chicken, or of all the trillions of indivisible beings on Earth, let alone in the universe, I was the one in a million that at least made it to a human lifeform. I am that hole in one, that deck of cards that just happened to fall on the table in perfect order.

It seems that "being" (as a verb) is something that occurs in an indivisible (thus individual) block of cells. And yet where do we say that indivisibility starts and ends? Am I not dependent on the society and environment I find myself in? Therefore, shouldn't the smallest indivisible part of my being be a total of that society and environment? And what of the individual cellular clusters in my brain? What of their individualities? It could make more sense that "I" should be all beings -- Ie: if I should be any part of a thing such as society and environment, then I (as a "being") should be all of that thing, else I should be "none", just as I don't attribute the essence of any individual being on any particular cellular cluster in my brain!

And this too exposes another conundrum. How could I ever be "none"? Why was I not "nothing"? How could I have Never been born? How could there have been any chance that I never existed? Surely it is highly improbable that I exist at all. So then once I have moved past that improbability, what probability that I should be in this being, able to think, read, reason, and write?

The idea that I might never have existed is incomprehensible. For "me" to have never existed would be from my perspective to challenge whether or not reality itself could have existed.

What am I??

Certainly, quintessential consciousness is proving to be a little more complex than simply being awake. This is consciousness when examined as an existential theme. Existentialism[1] is a word we will avoid focusing on too much because of its broad meaning and usage, especially its emphasis on responsibility, choices and commitments, and how they define one's existence. Existentialism is nonetheless applicable when we use it to describe a philosophy that considers "the essence of existing", but it is less applicable when we add issues about "coming into being" such as we describe here.

The issue of "coming into being" in terms of the chance location of our "being" occurring in any one position, object, animal or human, is at odds with the "certainty of being", the exceptional certainty of the reality of our inner self. That is to say, from one's individual perspective, our inner reality is the most certain thing we have. This is reinforced by the philosophy of Cartesian Dualism as introduced in the passage 1 "Departure Lounge" whereby, for example, we can close our eyes and the only certainty that remains is our inner reality. That is to say, 'René Descartes, with "cogito ergo sum" or "I think, therefore I am", argued that "the self" is something that we can know exists with epistemological certainty'.[2] This contrasts greatly with the vagaries of our "coming into being" whereupon this astonishingly certain inner reality appears to drift into just one individual organism quite by chance.

This all largely comes under the heading of the *ontological study of being*[3] that we later simply call the *Problem of Unpredictable Emergence*[4] in the passage of the same name.

Now that we have introduced the aspects of dimensions and "coming into being" or "unpredictable emergence", we are better equipped to go in search of Quintessence.

3.2 We Are What We Eat

Now we have a much better idea of what it is we are really looking for, let's start our search in the matter we are composed of, the atoms and molecules we are nourished with, from the moment of conception.

Of course we have covered this already, in the passage 1.6.1.1 "The Mechanics of the Experience-Moment", by attempting to rule out experience in matter, experience in memory interaction, and experience in dataflow (or sense data). Here, we look again taking a backward step to a more humble position starting from the presumption that life force can be scientifically explained as a neurally bound phenomenon.

What part of us harbours our consciousness? What makes me uniquely different from you, separate from you and unable to perceive the sensations that belong to you? Clearly there is separation. Clearly the centre of my being is located somewhere in me such that my perceptions are only linked to the sensations of my body. This simply serves to prove that there must be a location associated with my quintessential consciousness, with my soul. If my quintessential consciousness is simply pinned to a series of thought processes, then I should be able to find myself in any being having those thought processes. Hence, there must be some pinning of my quintessential consciousness to this body that I find myself in.

If that is so, then I can go in search of the location of my quintessential consciousness within my body. Where am I?

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[1] See "Philosophy Reference"

[2] quoted from: http://en.wikipedia.org/w/index.php?title=Ontology&oldid=358342063#Ontological_and_epistemological_certainty

[3] http://en.wikipedia.org/w/index.php?title=Ontology&oldid=358342063

[4] See 7.4 "The Problem of Unpredictable Emergence"

Now we are not only asking "what am I", we are also asking "where am I". That is to say, where is the centre of my being in my body? Obviously answering either one of these questions will help us answer the other.

The ownership of my sensations, the inner register of my pleasure and pain, the inner knowledge repository that constitutes my quintessential consciousness must have a location within my body. Consider the following conundrums..

If I have a heart and lung transplant, who should my body expect to wake up as? Will the donor's soul be awoken with my memories and will "I", as in my soul, depart? This is not as implausible as it might sound -- no one would know! Of course, we expect that our quintessential consciousness (or soul) is attached to our brain and so, in the case of the hypothetical transplant, "I" would awaken with someone else's donor organs. If we agree with this as common sense, then we must accept I should expect to find my quintessential consciousness in my brain.

So if my quintessential consciousness is in my brain, now I can ask what part of my brain? If we wish to scientifically rationalise, then it would be quite helpful to know exactly where and what it consists of.

So let's look at the 3 main possibilities...

Is my consciousness in the atoms of my brain?

This is essentially exploring the possibility that "my consciousness" (or anyone's consciousness) is physically neurally bound.

If the totality of my quintessential consciousness, including my sensations of pleasure and pain, are owned by my body, then it must be part of my atoms. If we are what we eat, then we must have eaten some pretty amazing atoms.

My atoms, and thus my nervous system, all come from the food I ate and, in the case of some particularly long-lived cells that were formed shortly after my birth, they came from the atoms my mother ate via her breast milk. If consciousness is in my very ordinary atoms, then these are quite extraordinary atoms.

Many of those atoms change as cells die and are replaced. There is some debate about the significance of this of course. The following subtext discusses the detail...

> Most cells are discarded and replaced throughout life on a regular basis, but some are not, such as the cells in the cerebral cortex. Whilst the Cerebral Cortex is only the outer layer of the brain, this is the folded membrane of cells most keenly attributed to consciousness and higher intellectual function. There is considerable debate about whether these cells are replaced/regenerated throughout life or not, but the consensus of opinion is that most regeneration ceases during infancy. [1]

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[1] Cell replacement references:

In the article Your Body Is Younger Than You Think from the NY Times: http://www.nytimes.com/2005/08/02/science/02cell.html, "Dr. Frisen...finds... visual cortex neurons.... are not generated after birth in this region of the cerebral cortex, or at least not in significant numbers".

Leading Article by Google Answers: http://answers.google.com/answers/threadview/id/552383.html This is well cross referenced and references Dr. Frisen in the above article in its conclusion that cerebrum cortex cells do not regenerate.

Encyclopaedia Britannica: http://www.britannica.com/EBchecked/topic/9171/aging/63915/Tissue-cell-loss-and-replacement gives a general overview and indicates that nerve cells do not regenerate.

Some interesting comments on Richard Dawkins, "The God Delusion" where he is said to quote Steve Brand as saying, 'not a single atom that is in your body today was there when that event took place...' ": https://richarddawkins.net/forum/viewtopic.php?f=5&t=69152.

Re Lizard Neuron And Cerebral Cortex regeneration:
http://cat.inist.fr/?aModele=afficheN&cpsidt=19758406
http://www.ncbi.nlm.nih.gov/pubmed/1457995

The Basal Ganglia http://en.wikipedia.org/wiki/Basal_ganglia is also connected with emotions (in addition to the claim of consciousness in the cerebral cortex).

In short, some cerebral neurons are thought not to regenerate throughout life and so they could indeed harbour our singular consciousness during the period of our lifetime.

As an aside, there is no escaping the fact that these neurons were formed from some food source, perhaps from our parents when consumed before our conception, and so there is no escaping the fact that consciousness has descended upon ordinary atoms giving them the ability to feel pleasure and pain. Nonetheless, if life for us individually starts at the point in time certain cells are formed, and if life stays with us over their duration, we should examine these cells as a potential location for our central consciousness.

Consider the implications for scientifically rationalising our quintessential consciousness if all cells were periodically replaced. If all cells in the brain periodically regenerate, then we would have to conclude that "my quintessential consciousness" was not attached to the atoms of my brain because my memories confirm I was the same person as I am now in that my quintessential consciousness has been constant for as long as I can remember. If the neurological matter my consciousness is pinned to is not constant, we might have to conclude that my consciousness is not neurally bound at all.

However, if some brain cells form shortly after birth and never regenerate, then we appear to have found "where I am" and explain why I feel myself to be constant. Let's look at the implications of this postulate...

What part of my brain must be removed or rendered nonfunctional before my quintessential consciousness can no longer return to my body? If an accident or surgical procedure removes a small part of my brain, we normally expect I would wake up as the same quintessential consciousness (or soul) providing the damage is minimal. However, certain types of damage and loss do result in fundamental personality changes. Thus we anticipate there is a centre of self somewhere in the brain in line with the "Queen Bee" conclusions we drew in the earlier passage 1.6.1.1 "The Mechanics of the Experience-Moment".

This would seem to be a convenient postulate for reductionist science except that it raises difficult questions about the nature of quintessential consciousness.

Can the totality of my quintessential consciousness have been lying dormant in far-flung atoms that were brought together by chance through the consumption of food? Or was the totality of my quintessential consciousness "created" at the instant those atoms were sufficiently arranged to harbour consciousness?

Of course as previously discussed, the arrangement of these atoms can be damaged and my consciousness can lie dormant during deep coma after which the arrangement of these atoms can be made functional again and my consciousness can be restored. Knowing this, when one day my body becomes deceased and these atoms cease to function, I have to wonder at what point of damage the totality of my quintessential consciousness is released? Does my decimated consciousness float forever awaiting reconstruction in some other sentient creature or otherwise lie forever dormant?

What happens when only some of those atoms find themselves in sentient creatures? What happens if they are dispersed amongst several sentient creatures? Does my quintessential consciousness split into two or more? How can I awaken in more than one place at a time?

We will come back to these issues in more depth throughout *Awoken Evolution* but for now perhaps we can agree that it is not as simple as declaring our consciousness to be a part of the atoms of the brain. There must at least be more constituent parts.

Is my consciousness integral with my DNA?

If we are looking for something physical that our consciousness is attached to, we should be looking for something just as unique and something that exists alongside our consciousness at all times. What of the possibility that our unique individual DNA plan provides exactly the required continuity? As our DNA forms to a unique combination, so our consciousness is formed. As our DNA is abandoned at death, so it ceases to be possible to revive our consciousness.

This is a compelling thought but it has flaws as we will demonstrate. Pinning the totality of "my" vivid conscious awareness on to a "plan" written on some randomly selected atoms, largely leaves us with conclusions similar to the ones we drew about the possibility of consciousness being associated with atoms. Let's look at some of the conundrums that this line of thought generates...

What about consciousness in identical twins? Can they both become one consciousness where one twin becomes inescapably aware of the other's sensations? What about the possibility of a wealthy person cloning him or herself and extending their knowledge into that clone, and then being confident that their consciousness will transfer to the clone? What of the possibility of the clone existing at the same time as the DNA donor? And is this not what happens when we extend our cells through education and care into our children?

As the genetic plan progressively changes between generations, what do we then pin consciousness to? We can't accept that my consciousness would be pinned to a similar plan as that would presume I am the same consciousness as my parents and my children inherit my consciousness. It might be acceptable to say that my consciousness is pinned only to my "plan". Are we then to say my consciousness always existed as a conceptual plan pending a time in the universe when that plan was made functional? Will my consciousness, my pleasure, my pain, become dormant at the point I become deceased until such time my "plan" reawakens?

Most would surely agree that these consequences are absurd and not as observed by ourselves and reported by other individuals. A further problem with this postulate is ageing -- as our cells divide, the genetic information corrupts slightly thereby leaving us with ageing, and yet we do not presume that the individuals consciousness itself has changed to someone else.

What of the longevity of genes? Genetic information is one of the most long-lived phenomena we can conceive of. Some significant strands of the information in our DNA has been around since before the ice age, and indeed smaller segments of data date back billions of years. DNA shows more longevity than many geological structures and that longevity shows no sign of diminishing.

When we die, we lose our memories and our atoms are scattered but our DNA is immortal. We are all involved in the continuity of DNA. Could this be the answer we seek to explain our relentless struggle with the concept of mortality? Perhaps so, but when we consider ourselves individually again, noting the inescapable sensations of our individual pleasure and pain, such esoteric conclusions seem nothing more than an aside.

And so, if we find any of this absurd, if we do not accept this argument about consciousness being wedded with our DNA plan, then we must go back to the default position proposed by consciousness being in the atoms of brains as prior.

Is my consciousness in my Brain Activity?

When exploring the possibility of consciousness being neurally bound, this seems by far the most likely scenario given that the brain requires a certain amount of activity to be conscious, ie: to be awoken. This postulate is an amalgam of the first postulate about consciousness being "neurally bound" (bound to the atoms in the neural network of our brains) combined with the obvious ingredient of brain activity.

This appears to be the default position for rationalists who prefer existence to be explained without calls on the metaphysical. The nervous system and neurons of the brain all combine together with sense-data and other electrical and chemical "neural activity" to provide the cradle of consciousness.

Unfortunately, it does little to answer the question "where am I". The totality of my quintessential consciousness that registers the ultimate individual reality of existence, pleasure and pain seems difficult to conceive of as simply being the product of electrical and chemical activity within atoms, molecules and cells inside my cranium. That doesn't mean to say it isn't, but it does seem a hard concept to grasp. Why?

Firstly, on the face of it, that would be to assume that anything that is capable of logical processes through electrical and chemical activity has consciousness. That would be to suppose our very much smaller cerebellum might have a different consciousness given that it functions when we are asleep.

Furthermore, when the brain is idle, when there is no activity, where is consciousness parked? Anyone advocating this postulate would presumably theorise that consciousness is parked on the atoms of the neural network of our brains where it lies dormant awaiting further activity. Unfortunately, that puts us squarely back into the domain of the first postulate about consciousness being "neurally bound", leaving us with all the awkward conclusions we encountered there.

Despite this problem of parking, the obvious component of consciousness that is brain activity is something which needs further exploration. We will examine this in more depth in the next passage...

3.2.1 Sleep, Life on Hold

What more can sleep tell us about the Quintessential Experiencer within? In the passage 1.2 "Questioning Experience", we broached the subject of the Experiencer and separated out stimuli, brain function and the actual act of experiencing.

We did so by imagining simple sensory deprivation -- how it feels to be still awake in a quiet deep bath with our eyes closed and with nothing on our minds. We noted that while we were still awake, we still experienced. Furthermore, we were still aware of ourselves. This helps us to define the Experiencer, or Sensater as we referred to it in the passage 3.1.2 "Consciousness Defined", because that is what is still functional despite stripping away all the usual stimuli associated with life. This also helps us to vividly grasp the notion that our quintessential consciousness is "reality" to each of us individually.

Now contrast that with sleep. Although there are different levels of sleep, there is very little to debate about the difference between being actually awake and actually asleep. Although difficult to define scientifically, for each of us individually, there is a huge difference. When we do fall asleep (as we are likely to do in our quiet bath tub of sensory deprivation), we note that the Experiencer or Sensater has been "switched off".

An interesting aspect of this transition to unconsciousness is that we are never really aware of the moment of loss of consciousness. Our Awareness Engine is switching off and in doing so we cannot be aware of the transition. For each of us as individuals, when reality ceases, there is nothing, not even a sensation of oblivion (notwithstanding dreams which we will come to shortly). Sometimes we have awareness of the transition if we awaken during the moment or just after it, and the experience is one of reality becoming distorted. On the other hand, as I'm sure most of us can attest, when we unwillingly approach losing consciousness as a result of a dizzy spell or similar, we are sometimes aware of the desire to hold on to consciousness as reality distorts and recedes.

Sleep itself is characterised by a period of time that we become unaware, a period of time where events such as minor dreams and small noises are either never experienced or are deeply forgotten. Sleep has been analysed and found to be a period of time when we have a different hormonal balance (melatonin), a period of time when we use very little energy. Aside all the well researched and documented uses of sleep in accentuating growth and rejuvenation[1], sleep seems necessary for the brain to do housekeeping, to convert short-term daily memories into long-term memories. It is probable that sleep is a time when the brain compresses memories by reviewing them and discarding the detail, making retrieval easier and more efficient[2]. This is perhaps a time when experiences are analysed and lessons are learnt, allowing good and bad experiences to be categorised and weighed against future activities.

For all the differences that science can reveal between being asleep and awake, the chemical differences, heart rates, rapid eye movements, the measure of these changes is less than the personal experience. That is to say, the moments in time where we change from consciousness to unconsciousness and change back again to consciousness are far more obvious and clear cut to us than any analysis of chemical change can reveal. If an individual closes their eyes and acts as if they are asleep and then eventually falls asleep, someone else observing that individual will only see a slight difference, and if the individual is being monitored, the monitors will only see a slight difference in heart rate and brain activity at first. As a deep sleep develops, significant changes may be monitored, but the point is that for the individual falling asleep, a colossal difference occurs within the individual that only reveals itself as a minor change externally. As we noted in the passage 1.3 "Is True Sentience Possible?", an observer has no absolute way of knowing to what extent a person or patient is asleep. By contrast, in the personal experience of the individual, one minute he is aware and experiencing, the next minute he is not. Stated from the first person perspective, one minute I am here, the next minute I am simply not.

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[1] http://en.wikipedia.org/w/index.php?title=Sleep&oldid=384682261

[2] http://en.wikipedia.org/w/index.php?title=Rapid_eye_movement_sleep&oldid=381282127#Memory-related_theories

Occasionally the Experiencer switches off when we are apparently awake -- when we sleep walk, sleep talk, or sometimes when we are doing something boring, repetitive, mundane and we realise a period of time has elapsed where nothing memorable happened. Furthermore, occasionally the Experiencer switches on when we are apparently asleep -- when we find ourselves in a dream for example.

Of course this kind of examination of sleep gives credence to the theistically averse scientific line of thinking. It tends to demonstrate that the phenomenon of experience is directly linked to the body and the brain, and is even subjugated by it, in that the Experiencer is unable to experience if we are too tired, unconscious, etc. However, in examining this difference between being asleep and awake, we also get one of the best looks at the transient nature of quintessential consciousness. During sleep, our life force goes on hold and our body goes into a reduced activity state. It might even be said that our life force departs and our brain goes into a dormant state. We are effectively dying and being revived daily.

Let's examine the similarities between being awake and alive, and the similarity between being asleep and dead. Coma strikes a surprisingly strong chord with death, and sleep can be similarly associated with unconsciousness. Where a person drowns in freezing waters and gets resuscitated some 30 minutes later[1], we see the emergence of a dilemma as to whether or not we should observe that person as unconscious or temporarily dead. A person who goes into an operating theatre may be blissfully unaware when awoken, that he (or she) in fact was briefly "clinically" dead due to some mishap -- there are of course many recorded cases,[2] notwithstanding "heart-stop" cardiac surgery where "near-death" is induced. Perhaps a person who goes in for any routine operation is equally dead as soon as they are anaesthetised? Perhaps everyone who falls asleep at night technically achieves the same state of temporary death when not dreaming?

The transient nature of consciousness is such that it is able to detach itself and reattach itself. Often, when death does occur, it occurs during sleep. If the brain and body is still functioning, consciousness can reattach itself and we awaken. If the brain and body ceases functioning, consciousness cannot reattach itself. If a patient in hospital is connected to a heart monitor machine when death occurs during sleep, the patient may be revived, in which case, once again, consciousness can reattach itself and the person will awaken again.

Of course there is the phenomenon of Near Death Experiences, NDE's,[3] which can further bear out the strange transient nature of consciousness and its occasional disassociation with the flesh. Such case studies are not included herein because of their vague nature and common association with belief.

All of this challenges the notion of consciousness being neurally bound. The relative ease and totality of which consciousness can be withdrawn when we sleep indicates that quintessential consciousness is not a property of the matter, cells, molecules or atoms of the brain alone.

The continued absence of consciousness during the heightened brain activity of REM sleep (Rapid Eye Movement sleep) even challenges the notion that consciousness is a property of brain activity at all. Researchers have "found activity in areas of the brain that controls sight, hearing, smell, touch"[4], etc, that would indicate a very similar brain state to consciousness. This is not a complete argument in that it could be argued that consciousness does occur as in dreams, but such memories are not formed or are simply forgotten -- however, we can state that normally (vivid dreams aside) consciousness is not experienced during sleep. We will come back to REM sleep later in the passage 6.1.2 "Dead Puppets" but for now we can start to see that even sleep raises doubts about a scientifically rationalised universe confined to the known laws of physics.

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[1] many examples including "Case history" under http://www.ncbi.nlm.nih.gov/pmc/articles/PMC286328/, referred to in http://www.bmj.com/cgi/content/full/327/7427/1336. Further reading at http://en.wikipedia.org/wiki/Near_death_experience

[2] eg: http://www.msnbc.msn.com/id/34625348/ns/health-pregnancy/38553943#fullstory -- "Mother, baby revived after 'dying' in labor... msnbc.com". Air embolisms during brain surgery are also a common cause of revivable deaths -- http://www.freepatentsonline.com/y2006/0129205.html provides some details of revivable criteria.

[3] Eg: http://sedna.no.sapo.pt/death_scresearch/pdf_docs/12.3_cook_greyson_stevenson.pdf -- "Do Any Near-Death Experiences Provide Evidence for the Survival of Human Personality after Death? Journal of Scientific Exploration, Vol. 12, No. 3, pp. 377-406, 1998"

[4] http://en.wikipedia.org/w/index.php?title=Rapid_eye_movement_sleep&oldid=381282127#Physiology

3.2.2 Sleep, Joy and Suffering

If consciousness can be parked while we sleep, during unconsciousness, etc, then consciousness can continue to be parked when we are deceased. This is of course proven to a large extent in heart-stop operations and severe accidents (e.g.: drownings) as we discussed in the last passage. As we noted therein, if the brain and body is restored to working condition, detached consciousness will reattach itself to whatever memories are restored.

To non-theist reasoning, this confirms that quintessential consciousness is thus a product of the ability to think. However, given the principles we have established including that of "unpredictable emergence" in the earlier passage 3.1.3 "Anecdotal 'I' Evidence" along with consideration of the passage 3.2 "We Are What We Eat" and so forth, this leads to uncomfortable conclusions about quintessential consciousness descending on anything that can think and has memory. Ie: Any "thinking memory" can harbour Quintessential Consciousness, the ability to be trapped in the centre of pleasant and unpleasant experiences and sensations, including the more vivid sensations of pain, fear, distress.

If so, as animal rights protesters have known all along, any animal or insect is entitled to respect for their suffering. Regardless of its size, if it can "think", detect adversity, react and struggle, then it is entitled to rights in respect of its suffering. We can see and relate to distress in a small bird, perhaps a sparrow or a robin, and no matter how difficult we find it to relate to, we can even watch a small fly caught in a spiderweb and we cannot deny how clearly it too is distressed.

We should go even further and say such an attribute is possible in machinery such as a fridge. This is not as remote a comparison as it might at first seem. For example, leaving a fridge door open must be causing the fridge a great deal of pain relative to its intellect. After all, a fridge is an individual being with a thermostat to sense, a processor to switch on the motor in more advanced appliances, and a motor which "struggles" as it gets hot and noisy after it is left running too long. We can even say this is a situation which it is instinctively aware of in that the design of its motor has evolved to ensure it can withstand such abuse. As the motor will normally be fitted with a thermal cutout, it is possible to say there is even anticipation which could be interpreted as fear and dread. There is even memory in terms of permanent motor damage, a memory which is acted on by the benefit of the thermal cutout cutting supply more quickly next time because thereafter the motor will heat up more quickly due to deterioration. Superficially, the fridge even has the prerequisite states of consciousness to be compared to some creatures -- asleep when idle, awake when cooling, unconscious when unplugged, and dead when it no longer functions when plugged in.

Looking at our own heart, lungs, intestines -- these are all controlled from the cerebellum, a piece of brain at the back of the skull that is about the size of a plum (the cerebrum is the larger part that we associate with higher intelligence). The remarkable thing here is that we digest food, moderate our heart and breathing rate, and normally we know nothing of it, we don't think about it. This cerebellum continues to do this when we are asleep and lose consciousness. Is it "alive"? Certainly it is alive in the conventional sense of the word but is it conscious?

Can we really say that consciousness is a product of thinking memory when we know our own cerebellum does not have any independent aspiration to "self" awareness? It obviously thinks and it remembers such things as repeated muscle movement combinations (running, catching, throwing, working, a musicians hand movements, etc), and it is even capable of displaying distress (for example increasing heart and lung rate when unconscious and needing oxygen), yet it does not seem to know of pain, nor does it dread or fear. The cerebellum seems incapable of joy or suffering except to serve whatever it is in our cerebrums that is capable of joy and suffering. The only way that it knows about its pleasure and pain is because it borrows from our consciousness.

Yet a small robin's brain or a fly's brain is a tiny fraction of the volume of our cerebellum but it appears to be capable of pain, fear, and of course distress. Is the fly simply programmed to react in the same way as a fridge or a cerebellum? Is it incapable of knowing of itself without a sentient being such as ourselves observing it? Is it otherwise unaware of itself in the same way a fridge is unaware of itself?

Wakefulness seems to be able to occur in anything that can harbour it. And how should we define wakefulness in an advanced computer? Clearly computers currently only react like a fridge or our own cerebellum -- they can react with distress but we reasonably presume they cannot own a sensation of pain because we know of no way to program it to bridge the gap between being able to process like the cerebellum and be aware like the cerebrum. Is it possible that a fly is no different to a computer, a fridge or to the cerebellum in which case it cannot suffer?

The cerebellum, cerebrum, bird, fly and fridge are all blessed with "thinking memory", so where is that difference? Something in me, something presumably in my cerebellum is capable of waking up and enjoying or suffering. That something can be parked at night, is parked when we are damaged or become gravely ill, and becomes permanently parked if such damage is sufficient, with the caveat that this "something" can be revived, ie: retrieved if the damage is somehow reversible.

Keep in mind that there is no such "something" in the objective non-theistic description of a living being. Such a being is simply functioning or not functioning. Keep in mind again the difference between the functioning "thinking memory" of our cerebellum which seems incapable of joy or suffering, and contrast that with the functioning thinking memory of our cerebrum which clearly does.

So what is it that is different between human consciousness and "thinking memory" machines?

Looking at a range of different intellects from the cerebrum downwards through the cerebellum, small bird brain, insect brain, through to the fridge brain, we note that they all think. Thus, with the cold logic of a scientifically rationalised universe confined to the known laws of physics, they should all be sentient, capable of suffering, and thus harbouring quintessential consciousness. Therefore, continuing this proposition to its absurdity[1], if we consider their quintessential consciousness might have just as easily been our own given the principles of "unpredictable emergence", they all should be deserving of rights and recognition. This becomes increasingly absurd unless we are prepared to think beyond that cold logic.

3.2.3 Extreme Stimulus

Let's consider torture as an extreme stimulus. There could be no more graphic an illustration of the applicability of rights as we encountered at the end of the last passage, with this particularly abhorrent invasion of human rights.

On the face of it, the inseparability of our innermost being from the stimuli we receive, especially during such great physical and psychological torment when we most want to be separated from such stimuli, appears to be proof of the simplistic mortality of human beings, proof that there is nothing special about a spirit which is so locked in to a body as to be genuinely a physical, inescapable part of it.

However, it is when we draw comparisons with other forms of intelligence that we start to get an absurdity. What about deliberately tormenting a fridge or a computer, or perhaps a supercomputer that has more advanced sensory analysis and self-determination?

We looked at suffering in a fridge or a computer in the last passage. We noted how absurd it seems to appropriate some kind of respect for the suffering of such devices, to consider them to be deserving of rights. If we follow the proposition of neurally bound consciousness to its extreme, then we might just as easily find the centre of our individual self having emerged in that fridge, computer or supercomputer.

Let's assume that we accept the Darwinist argument that our trillions of brain cells can combine stimuli and memory together in such a way that self-analysis becomes inherent and thus consciousness becomes apparent, then it is reasonable to assume that a giant computer could do the same as we considered in depth in the passage 2.2.1.4 "Hammer House of Supercomputers".

Torture is an unpleasant subject especially if we tried to imagine experiencing or perpetrating it ourselves. Nonetheless, in the search for truth, we must briefly touch on this extreme sensation, the inescapability of it, the unpleasantness of it, the intrusiveness of it. Fortunately, few of us have experienced anything like it but almost all of us have experienced extreme pain as a result of an accident or illness at some point and so we are able to relate to it in some small way. We would do almost anything to escape the unpleasantness and intrusiveness of it and hence it is used to make people do things against their will and as a form of punishment and/or deterrence.

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[1] recalling Reductio ad Absurdum first discussed in 1.3 "Is True Sentience Possible?"

Now let's try and imagine inflicting such an unpleasantness on a supercomputer. To allow a comparison, we have to imagine a computer that has extensive self protection programs that mix the inputs from sensitive instruments gathering stimuli with vast quantities of memory able to equate certain types of stimulus with danger. In addition, it must be able to determine when damage is occurring, able to create and simulate scenarios and envisage the potential for further damage. We now have a frame of reference to which we can equate imagination, apprehension and fear.

We can perhaps even imagine sensory overload in these delicate input instruments that might equate to extreme pain mixed with damage.

Throughout this, can we imagine a computer persuaded against its "will"?

A computer could be described as asleep or perhaps having a disassociation from empathy and emotion. It might be programmed to imagine the trauma that occurs in others, even to visualise it and thus show the traits of empathy, or it might have algorithms to simulate distress in order that it can relay such trauma to others. But could it be programmed to actually feel pain?

And what does such sadism reveal to us? Would two computers battling it out to the death have cause to confine one another and go about tormenting the other computer's sensors?

Humans only find it abhorrent to sadistically torment other humans because we know there is something inside, that there is a quintessential consciousness that has emerged within our being. We presume there is a similar quintessential consciousness within animals but we find it absurd to consider such a quintessential consciousness might have emerged in a machine. As demonstrated in previous passages, we wouldn't know how to test for and determine whether or not a machine was awoken, nor for that matter whether or not such a machine was actually feeling pain..

Can one really subject any kind of matter to the kind of torment that we know can be made to happen in quintessential consciousness?

3.3 Ownership and Sentience

To examine sentience in the context of cruelty is revealing. Sadism confirms sentience. When a human or animal is cruel or acts sadistically towards another being, it confirms that the sadistic human or animal believes the targeted victim is sentient. If the perpetrator thought the victim was simply a biological machine without any special sentience, then abusing the victim would be as pointless as beating a tree.

In terms of common sense, this isn't surprising. We readily accept that most complex organisms are sentient and we have a wide range of social mechanisms to encourage each other to refrain from cruelty. For example, society has a wide choice of language that reveals our understanding of cruelty and our revulsion of those who don't denounce it. Society has institutions such as the RSPCA and the law -- a legal framework of identifying and punishing abuse. These social constructs not only presume we have controllable will, they confirm we understand sentience.

And so, isn't it odd that science attempts to explain life in mechanical terms with little or no regard for sentience? Science may be right in its conclusions about the origins and construction of our biological machinery but alongside that machinery, there is clearly something else, something which gives rise to a sentience that makes us more advanced creatures firmly "believe" that other creatures are also sentient. This in turn sometimes leads to sadism but fortunately most commonly leads us to reject cruelty. Can science so easily turn a blind eye to this extra dimension that surely must be taken fully into account when trying to explain life?

It is probably the property of ownership that best highlights the property of sentient quintessential consciousness.

What is it within creatures, and especially we humans, that owns pain, sensations, experiences, memories, perspective, and why is it in any particular location defined by my or your body? Where does that owner go once the body goes to sleep, becomes unconscious or deceased?

Through the opening chapters and passages of *Awoken Evolution* up to this point, we have mainly looked at all the paradoxes, anomalies and absurdities which give us compelling reasons to challenge the scientific rationalisation of sentience and the universe.

Later, we will confront some of the questions that critics of creationism raise, including suffering and the lack of hard evidence[1] but for now we will change direction and start looking at other sides of the argument.

Let's now look at evolution giving credit where credit is due but also taking a critical look at some of the question-marks evolution raises..

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[1] See also 7.1.3 "The Metaphysical Confidentiality Clause"

4 Valley of Cold Logic

"*The Sea of Faith......... I only hear, Its melancholy, long, withdrawing roar, Retreating, to the breath of the night-wind*" - Extract from Dover Beach poem by Matthew Arnold, 1851[1]

The flood of scientific discovery has led to the rout of superstition and religion, leaving some of us bereft of inner understanding and self-esteem, abandoning those who question the physical realm to become the helpless prey of any passing ideology.

But just how reasonable is it to believe that dust, energy and time can support sentient, sapient, experiencing beings?

No one should be in doubt about the sheer weight and integrity of the evidence of evolution. Even carving a chicken and noting the similarity of bone structure to our own, gives us ample evidence of it.[2]

Whilst keeping in mind *Awoken Evolution* is seeking not to criticise science but rather to encourage it to take into account the broader picture, this chapter looks at whether or not there is room for criticism of the scientific rationale behind evolution, and if indeed the proponents of creationism would be wise to doubt it or not.

In pursuit of the absolute truth, in this chapter it becomes necessary to take a detour from our journey and, at the risk of challenging creationist sensibilities, we will concentrate on some uncomfortable evidence that should not be ignored.

4.1 Chicken Bones

How obvious is evolution? Notwithstanding that many religions have a modern interpretation of the *creation narrative*[3] that tends to presume the inclusion of some evolution, one of the most contentious aspects of religion is to decry evolution at all. After all, the evidence oozes out of every museum, quarry, archaeological dig, and even out of the dinner table.

Every time we eat a chicken and look at its bones on the table, we surely can't ignore the similarity of the rib cage, the spine, the limbs, and yet this is an animal barely related to humans at all. Pigs and sheep less commonly find themselves on the meal table almost in one piece, but we know they are even more similar. Is it possible to look at the great apes and not be struck by the obvious similarities?[4]

Looking at ourselves objectively, we fit the logical concept of evolution perfectly so why do we need to invoke deities?

We are born with blank minds, with no real thoughts about anything. We grow, and our thoughts evolve with us, and eventually if we reach the required level of intelligence, and if we acquire the right kind of impetus, we begin to explore our origins.

There is no empirical evidence of life after death and equally there is no empirical evidence of separate consciousness. If someone's brain becomes unable to function due to tiredness or becomes disabled through incident or disease, consciousness stops.

Thought simply circulates in our heads, just as it does in computers and in animals, and consciousness is no more than circulation of thought. If we are particularly intelligent and sufficiently highly motivated then we use our extra brain power to explore ourselves, we become aware of our own existence, we become self-aware.

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[1] from Dover Beach, poem by Matthew Arnold, 1851 www.geocities.com/suonnoch/Anthology/Dover.html

[2] See also 4.1 "Chicken Bones" next

[3] Eg: http://en.wikipedia.org/w/index.php?title=Genesis_creation_narrative&oldid=362543574

[4] See also 3.1.1 "Empirical Evidence of Life Force"

As some of the more intelligent animals are able to recognize themselves in the mirror, and live in social groups communicating with each other (as with dolphins), and even mourn their dead (as with elephants), it becomes reasonable to presume that we don't have an exclusivity on self-awareness as a species but we just happen to be sufficiently intelligent to analyse and share our analysis with each other.

So what is all this creationist "nonsense"?

Novelist Howard Jacobson contributed to the debate in a recent documentary[1] in which he found himself defending religion and the religious.. "I want to believe it because it seems to me there is an access........... I just believe there is something there that they[creationists] believe that is not negligible......... I simply want to honour the imaginative necessity that drives people to believe, and that all your reasoning in the world doesn't answer for..."No such quotation would be complete without mentioning the counterargument that was put forward by Professor AC Grayling[2] in immediate response... "Now nobody can deny, absolutely no one can deny that our emotional lives, or what I say in a secular sense is our spiritual lives, are the most important things about us. That is why poetry and music matter. That is why Love matters, and that is why human relationships matter. Why is it necessary, in addition to the beautiful music,.. poetry, the profundity of our love for one another, to add on these ancient stories of gods and ghosts? -- they don't do anything, even indeed historically they get in the way of it."

This small exchange seems to epitomise the dichotomy.

Continuing in general reference to the same documentary, Jacobson concluded that there was something fulfilling about the Biblical creation "story" (as he called it many times) provided it is treated as a "myth" in the positive sense of the word, by which he is presumed to mean it should be treated as a giant allegory or extended metaphor. Indeed, Jacobson went on to express his disagreement with those who take the Creation Story too literally.

Jacobson's conclusion is not very positive... indeed, much of his input seems to be damning with faint praise. He too appears to be decrying true creationism and capitulating to evolution. Perhaps that is the safest position to take, to moderate, to consider the *creation narrative* to be an allegory. Is this a position we should explore?

4.1.1 Is Scepticism of Evolution Reasonable?

Darwin's detractors have an abundant array of weapons with which to express their doubts and misgivings, among which we find the notorious Missing Link challenge, the Cambrian Shelf, the Flagellum[3], etc. The extraordinary complexity of tissue itself gives rise to common sense doubts as to whether or not a microscopic genetic container, the cell, could create such diversity of features such as intricate nerve and capillary networks. How can a cell divide so accurately as to provide muscle, intestinal tissue, bone, light sensing tissue and even data-processing tissue? In essence, our bodies are the product of that unique single cell first created by the marriage of sperm and egg multiplied like so many knitted stitches in a garment.

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[1] The Bible: A History, Sunday 24 January 2010, 7:00pm - 8:00pm, Channel 4 UK, ''' Novelist Howard Jacobson isn't religious, yet the story of the Creation resonates with him in a way he can't understand. What's more, he is angered with the "new atheists", led by evolutionary biologist Richard Dawkins, who are so witheringly dismissive of the Bible and all it contains. "Blind faith is fatuous," says Jacobson, "but so is blind doubt." '''... Attrib in part to Radio Times reviewer, Alison Graham http://www.radiotimes.com/ListingsServlet?event=10&channelId=132&programmeId=109504937&jspLocation=/jsp/prog_details_fullpage.jsp

[2] http://en.wikipedia.org/w/index.php?title=A._C._Grayling&oldid=337142741

[3] reference to the postulate that the minute Flagellum Rotor (See Richard Dawkins' "The Ancestor's Tale", passage titled "The Rhizobium's Tale") that certain single celled creatures use to propel themselves through liquids could not have evolved as it is an independent mechanism, and thus couldn't have evolved in stages -- thus it fuels argument from creationist that it must have been the result of intelligent design, a claim that is hotly contested by Dawkins and others. See also "Bibliography & Media References"

And yet each one of these stitches contains a blueprint with enough information to compile not only all the intricacies of a large organism but even learned instincts. For example, the instincts necessary for a wildebeest calf to find its feet and run within minutes of being born necessitate allowing it to view and process its three-dimensional environment and coordinate its movements accordingly.

And of course the answer that religion would rather not hear is that stunning theory "evolution" -- that theory that gives us the only plausible logical method whereby something can self-construct, whereby the complex can grow out of the simple.

Let's examine that simple remark again. Richard Dawkins sums up his book "The Blind Watchmaker" quite profoundly by concluding that evolution explains how organised complexity can arise out of primeval simplicity[1]. When one takes into account that we have no other logical explanation for how "something can come from nothing", this conclusion is as accurate as it is remarkable. This theory of evolution is indeed a theory that can rightly lay claim to being logical and evidence-based despite being a theory that describes "self-creation".

One of the favourite criticisms of evolution is the improbability of such beautiful design arising from survival of the fittest. This criticism has given rise to the term "like a wind blowing through a junkyard and accidentally assembling a Boeing 747" to describe how improbable evolution is.

However, to understand the theory of evolution requires that we understand the details. For example, evolution works in small steps -- tiny variations over millions of years, variations which are in essence random and either enhancing reproduction or detracting from it. The success or failure of each step is governed by survival, hence the common phrase "survival of the fittest". Out of this gradual refining process came organisms that were able to survive even better by adapting faster to changing environments or needs. This faster adaption came about by replacing simple self replication with sexual procreation. The resulting nature of attraction between different genders creates a feedback path greatly enhancing the ability for species to refine themselves, because organisms could then promote strong and adaptable genes through sexual attraction rather than leaving "survival of the fittest" to select the better genes through random trial and error.

Indeed, some would say, the more closely you look at evolution, the more logical and unquestionable it becomes.

So why would anyone doubt such a logical theory of how we came into existence?

4.1.2 Wasps

And if evolution so easily explains our existence, can consciousness itself be just as easily explained by our intellectual sophistication? Do we really need to invoke some mystical/metaphysical element to explain all the emotion, intuition and ability for self-analysis that gives rise to the ubiquitous phrase "self-awareness"?

A wasp is a curious creature. It is surely an example of enormous computing power within a very small number of neurons. Smaller than a crumb, smaller than an average pin head, about the size of two grains of sand[2], the wasp brain can coordinate all the images received through its multi-membrane eyes and, when irritated, can fly amongst obstacles at a speed that would surely be the envy of a stunt pilot.

In addition, that little brain can analyse situations, detect threats and allow a display of aggression. Yet, it can act with great calm, construct hives with precision, and tend it's queen and young with great delicacy. A wasp brain masterfully handles communications allowing it to return to a hive and signal to its fellow wasps with sufficient accuracy that they also might find pollen, food or a nesting site. A wasp can send pheromones into the wind as a long-distance message signalling for help. The common bluebottle fly displays similar remarkable skills with extraordinary reaction to being swatted.[1]

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[1] to quote Dawkins, summing up his book "The Blind Watchmaker", "The one thing that makes evolution such a neat theory is that it explains how organised complexity can arise out of primeval simplicity".. a profound conceptual point that we will return to again throughout this narrative

[2] http://www.sciencedaily.com/releases/2009/10/091014144738.htm

Now compare our brain -- perhaps equivalent to a million wasp brains. If that's difficult to imagine, picture this -- in the cavity of the human skull, we could probably line up 100 of these wasp brains nose to tail and then for each wasp brain in the chain, we could link sideways a further 100 wasp brains -- ten thousand in all -- but wait, we now only have a flat surface of wasp brains. Within our skulls, we could stack a further 100 wasp brains on every single one of those wasp brains. Now we have graphically visualised how a million wasp brains or thereabouts could reside in our skulls. Of course it isn't that simple. We are ignoring the fundamental differences in brain structure, for example the way our brain is constructed in folds accommodating the vast number of dendrites etc -- but we do get some idea of the difference in scale from this imagery. For all the extraordinary complexity of a wasp brain, we are approximately a million times more complex. And that, the evolutionist might rightly argue, is precisely how humans have achieved the vast complexity, emotions, intuitions and analytical abilities that we pondered prior. Is there really anything so mystical or metaphysical about that?

If a creationist were to attempt to describe God, the description would likely include vastness. We would have to try and visualise a God that is massively more intelligent than us, able to outsmart us. An immensely more sophisticated God could therefore inject that vital spark of quintessential consciousness. Perhaps so, but here, in our own craniums, we already have vastness. The vast capacity of the human brain includes around 100 billion neurons, each with thousands of interconnecting synaptic connections to other neurons[2]. By imagining something with a bigger intellect, we must unwittingly tap into the vastness of our own intellect in order to make that imagination possible, thereby revealing just how sophisticated we already are. We can easily imagine something bigger and more sophisticated, but can we imagine a greater and yet coherent individual intellect that exceeds our own in such a way that it can provide quintessential consciousness where as we cannot provide it for ourselves? At what point of intellectual magnitude does quintessential consciousness spontaneously start? Why shouldn't it be possible in our already vast neural network?

Any description of a deity is unlikely to be limited to intelligence and sophistication. Such a description would normally extend to omnipotent power, the ability to flick planets and stars around like marbles as was imaginatively communicated by the final animation in the Film "Men in Black"[3]. In this way, quintessential consciousness can be explained through something outside of intelligence and sophistication. Unfortunately, all that does is to defer the source of quintessential consciousness to something that we cannot explain, and since that defeats the purpose of trying to find logic and explanations to equal that of science's evolution, we can ignore that avenue of thought for now.

Therefore, we can't say quintessential consciousness comes from the extra sophistication of God, as it can almost just as easily come from the level of sophistication we already have. If we say it must come from some unimaginable quality of God, our goal of providing logical credibility to creationism is thwarted!

Why make things so complicated by even trying to defer quintessential consciousness to a higher being? Why not simply admit we evolved?

And so the valley of cold logic threatens to swallow us... or does it?

4.2 Evolution's Credibility Gaps

Why is there so much that is improbable? This is of course one of the Material Questions posed in earlier passages.[4] Nowhere does the question of improbability arise more frequently than with evolution, when people marvel at the complexity of earths fauna and flora, insects, fish, birds and animals. In this passage, we look at some of the less convincing aspects of evolution, but before we do, it should be said that readers should not assume we will find fault. As put in the introduction, we're not trying to discredit evolution, we are merely exposing the truth of it to question. That naturally means we will be addressing evolution in a critical light but cynics should not be too quick to assume the findings will be comfortable. With this rider now said, let's look at those questions...

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[1] http://news.bbc.co.uk/2/hi/science/nature/7586868.stm -- "High speed, high resolution video recordings revealed the insects quickly work out where a threat is coming from and prepare an escape route."

[2] http://en.wikipedia.org/w/index.php?title=Neuron&oldid=384825317#Neurons_in_the_brain

[3] http://en.wikipedia.org/w/index.php?title=Men_in_Black_(film)&oldid=339528954

[4] See also 1.5 "Four Questions"

- How did evolution kickstart?

  How did cell replication start spontaneously? Whilst crystal growth forms the basis for some theories about the earliest replicators, there is a leap between crystal replication and the most basic RNA duplication that dwarfs any species jump.

- Why does all life stem from just one original cell?

  The random formation of crystals in clay left us with just one genetic language, the DNA language that consists of 64 words with three letters each, all of these translating into the same protein assembly instructions -- regardless of any species, including bacteria etc. All cells that split on planet Earth use this exact same DNA language and DNA structure.

- Where are the fossil records of the intermediates between humans and chimps? Where is the missing link?

  Notwithstanding that there are a lot of discoveries regarding early man, there are still gaps in our understanding and in the evidence regarding the species jump between ape and man. How does speciation just suddenly occur?[1] How did species separate out into two or more species with different chromosome counts? Where are the fossil records of the intermediates and what form did they take?

- How can we account for the sudden appearance of advanced humans?

  Although the Earth has been around at least 4 billion years, we have just emerged in less than 1% of that time. Whilst one might accept that the founding of culture in terms of education, communication and writing is one way of explaining how "we" suddenly attained our Great Leap Forward between 8,000 and 4,000 years ago, it is difficult to accept that these slowly evolving big brains have been doing nothing for a million or so years prior (for example, the Elephant Hunters of 400,000 years ago in the UK[2]).

- Why do we search out "meaning" and why do we even have "self awareness"? What does this profit evolution? How does this benefit success through natural selection?

Let's take a critical look at each point in turn looking for clues..

4.2.1 Missing Link Debate

Curiously, this debate has been largely dropped by creationists. It is not a particularly compelling debate given how obvious our evolutionary path is (referring to the wealth of empirical evidence showing similarities in our bone structures, tissue and blood type etc) and perhaps that is why this has been dropped. Indeed, one could note that the missing link is simply the chimpanzee.[3] We simply don't need to find another missing link between the obvious missing link and ourselves.

However, perhaps we should remind ourselves that the Darwin theory is just that -- a theory. There are obviously links between ourselves and our evolutionary predecessors but should there not be more evidence of a direct link? Shouldn't there be a wealth of bone and fossil evidence of evolutions trial and error as it tried to bridge the gap between bent over hairy tree dwellers and upright hairless intellectuals?

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[1] Acknowledgement should be given to the excellent separation argument opposed by Dawkins in Blind Watchmaker, something which we will come back to later.

[2] http://news.bbc.co.uk/2/hi/science/nature/5128892.stm

[3] sharing approximately 99% DNA according to: http://en.wikipedia.org/w/index.php?title=Human_evolution&direction=prev&oldid=470243873

Let's keep our eyes on the evolutionist's side of the argument. There is the postulate that fossil evidence in general is very rare when taking into consideration the chances of the environment being just right to allow a fossil to form. If fossils were commonly formed, it is argued that we would be knee deep in fossil remains. Furthermore, we find ample evidence of Stone Age tools, primitive cultures, et cetera, and so arguably there is indeed ample evidence.

Nonetheless, all known humanity sparks from a single gene type with no substantial evidence of any bridging types that are similar, or any other intelligent branches from the animal kingdom. When it comes to the species jump prior to modern humans, there is another interesting observation to be made. Intellectual evolution, apparently a byproduct of culture and education, is very recent in that there is little evidence of culture more than 6000 years ago, depending on your definition of "culture". If we wish, we can go back 10,000 years and find some less verifiable evidence of South American culture in the early archaic period[1], but beyond that we only find stone and flint instruments and the odd cave drawing. Yet all the evidence points to these "primitive" people having the same brain capacity as ourselves.

This is odd. This would tend to suggest that we have evolved culture in an exponential fashion and yet there has been no physical change to our species.

Some millennia ago, there was a period where there was said to be an explosion in culture, music and art. This is something Dawkins considers in his book The Ancestor's Tale[2] where he describes the "flowering of consciousness in Homo sapiens" as occurring in a period called the Great Leap Forward about 40,000 years ago. For some 2 million years,[3] human beings were perfunctory animals using basic stone tools and stone weapons, then Cro-Magnon man suddenly appears with paintings, carvings, ornaments, and bone flutes.[4]

If man's species jump was so long ago[5] that we cannot find substantial fossil evidence of it, why did it take so long for culture to evolve to the level found only inside the last 1% of our existence (about 40 millennia ago)? The arguments will surely rage backwards and forwards with the obvious retort that this was the period when Cro-Magnon man[6] (basically the most modern of human species) evolved into existence. However, in the science of Cladistics[7], we find that modern man is split into the three major groups, African, European and Asian some 200,000 years ago.[8] This is a dilemma because the great leap forward was well after that.

Furthermore, how did we all simultaneously achieve the relative enlightenment that occurred some 5 millennia ago? This is the much more obvious explosion of culture, music and art that is so much in evidence in archaeological digs through to preserved ancient architecture, ranging from some 10 millennia ago but particularly prevalent about 5 millennia ago. [1]

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[1] http://en.wikipedia.org/w/index.php?title=Ancient_Peruvian_cultures&oldid=394580991

[2] Ref "The Ancestor's Tale", Richard Dawkins, ISBN 0-297-82503-8, Chapter "The Cro-Magnon's tale" (on the 1st and 2nd page): "Archaeology suggests that something very special began to happen to our species around 40,000 years ago."... Dawkins refers to the period as "The Great Leap Forward" as apparently a term first coined by Jared Diamond ("Guns, Germs, and Steel: The Fate of Human Societies" W. W. Norton. pp. 39. ISBN 978-0-393-31755-8).

[3] http://en.wikipedia.org/w/index.php?title=Human_evolution&direction=prev&oldid=470243873 -- shows that the earliest related species dates back some 7 million years and that modern man has been around for some 2 million years. The next footnote considers that manmade artefacts existed much longer..

[4] Ref Jared Diamond "Guns, Germs, and Steel: The Fate of Human Societies" W. W. Norton. pp. 39. ISBN 978-0-393-31755-8; http://en.wikipedia.org/w/index.php?title=Behavioral_modernity&oldid=301344218. "Earlier than the Great Leap Forward, manmade artefacts had hardly changed for 8 million years. The ones that survive for us are almost entirely stone tools & weapons..." -- continued -- "As far as we can tell there are no paintings, no carvings, no figurines, no grave goods, no ornamentation. After the Leap, all these things suddenly appear in the archaeological record together with musical instruments such as bone flutes, and it wasn't long before stunning creations like the Lascaux Cave Murals were created by Cro-Magnon people." -- continued -- "David Lewis-Williams 'The Mind in the Cave' considers the whole question of the Upper Paleolithic cave art, and what it can tell us about the flowering of consciousness in Homo sapiens."

[5] at least 4 million years ago http://en.wikipedia.org/w/index.php?title=Human_evolutionary_genetics&oldid=398899868#Cladistics

[6] http://en.wikipedia.org/w/index.php?title=Cro-Magnon&oldid=399662946

[7] http://en.wikipedia.org/w/index.php?title=Cladistics&oldid=400477454

[8] http://en.wikipedia.org/w/index.php?title=Human_evolutionary_genetics&oldid=398899868#Cladistics "mitochondrial most recent common ancestor of modern humans lived roughly 200,000 years ago". See also http://en.wikipedia.org/w/index.php?title=Race_and_genetics&oldid=400215339#Geographic_and_Tree_analysis

It would seem the 200,000 year old species of modern Cro-Magnon man, in all its diversity across the globe, experienced a simultaneous blossoming of culture independently. This was curiously at a point in history that is not so different to various creation narratives including that of the monotheistic Judeo religions at about 4000BC[2] and Maya's Popol Vuh at about 3100BC[3]. It increasingly looks like all strands of the Homo Sapiens species collectively developed cultural symptoms at about the same time not that long ago, *well after* the arrival of Cro-Magnon man and well after the spread of man across the planet.

Of course there is debate about when human enlightenment is said to have commenced. Based on the discovery of grave goods such as stone tools and animal bones,[4] some postulate the emergence of religious awareness occurred throughout the earlier Middle Paleolithic era,[5] spanning a period between 300 millennia to 50 millennia ago. However, others argue that there is scant evidence of burial, let alone religious activity,[6] prior to the period called Behavioural Modernity[7] which is another name given for that event some 40 millennia ago, earlier referred to as the Great Leap Forward. Although that fascinating latter period reveals evidence of art and culture through cave drawings etc, even that constitutes scant evidence of religious activity or awareness.

That Behavioural Modernity period may have been the Great Leap Forward, but surely the Gigantic Leap Forward by comparison was about five millennia ago. This is when culture, art and religion really took flight. By comparison to some exceedingly rare finds of stone axes, bone flutes and cave drawings, the evidence of a Gigantic Leap Forward is everywhere from Stonehenge (c. 3000BC[8]), Egypt (earliest pyramids c. 2600BC[9]) and the birth of Jewish history (c. 2500BC[10]), to Mayan monuments (c. 2600 BC[11]) and Hinduism (c. 5500BC to 2600BC reaching the start of its pre-classical era in 1500BC [12]). This is not to say these are the dates that the gigantic leap forward occurred, but rather this is symptomatic evidence of some considerable change to man's behaviour occurring simultaneously around the globe some time just prior.

Even if we agree that religious awareness emerged at the earlier dates of 40 millennia ago or so, it is still significantly later than the 200 millennia mark. Some articles push back human evolution of brain size to a size credibly capable of supporting religion at 500 millennia ago.[13]

So this all raises several awkward questions. If homo sapiens had the ability to think and communicate so long ago, why did it take so long before organised religion, culture, art and society presented itself? There is the theory that this went hand in hand with the evolution of mankind from hunter gatherer to agriculture which itself brought about societies growing out of the integration of tribes.[1] As we will demonstrate with a discussion about Australian Aborigines later, this does not really add up. It's fair to say that it took a very long time before man suddenly realised religion. Is it not more pertinent to note that all the traits of modern man suddenly emerged about 5 or 6 millennia ago? Should we discount the significance of this tying in with the various creation narratives? Could we not reverse the observations and note that the evolution of society occurred at the same time[2] possibly as a consequence of the emergence of creation narratives rather than giving rise to creation narratives? Should we not attach significance to the sudden emergence of social, cultural, and religious awareness emerging across all ethnic groups and locations around the globe at roughly the same time? Consider that this is near identical timing when compared to the 200 millennia to 500 millennia man was in "idle" prior. If there were some evolutionary force behind this, then the likelihood of such a change occurring simultaneously across so many continents is less than negligible.

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[1] timespan depending on your definition of culture, taken here as being around the Archaic Period in Egypt and Peru, http://en.wikipedia.org/w/index.php?title=Archaic_Period&oldid=325586190 and http://en.wikipedia.org/w/index.php?title=Ancient_Peruvian_cultures&oldid=394580991

[2] Accounts vary, but http://en.wikipedia.org/w/index.php?title=Ussher_chronology&oldid=401044994 gives 4004BC to 3952BC citing Sir Isaac Newton as putting it at c. 4000BC

[3] http://en.wikipedia.org/w/index.php?title=Popol_Vuh&oldid=400812827, http://en.wikipedia.org/w/index.php?title=Maya_calendar&oldid=400975166

[4] http://en.wikipedia.org/w/index.php?title=Evolutionary_origin_of_religions&oldid=396840736#Paleolithic_burials

[5] http://en.wikipedia.org/w/index.php?title=Evolutionary_origin_of_religions&oldid=396840736 -- top of article

[6] http://en.wikipedia.org/w/index.php?title=Evolutionary_origin_of_religions&oldid=396840736#Nonhuman_religious_behavior -- "The use of burial rituals is evidence of religious activity, but there is no other evidence that religion existed in human culture before humans reached behavioral modernity" -- see also next footnote.

[7] http://en.wikipedia.org/w/index.php?title=Behavioral_modernity&oldid=396219202

[8] http://en.wikipedia.org/w/index.php?title=Stonehenge&oldid=400372952#Stonehenge_1_.28ca._3100_BC.29 -- it is noted that Mesolithic postholes were found on the site dating back to 8000 BC, apparently made of pine. Quite how that was dated, or what significance should be attached, is unknown.

[9] http://en.wikipedia.org/w/index.php?title=Egyptian_pyramids&oldid=401598429

[10] http://www.robotwisdom.com/issues/judaism.html -- "oldest written Semitic language, Akkadian, in Mesopotamia"

[11] http://en.wikipedia.org/w/index.php?title=Maya_civilization&oldid=401492597#Preclassic -- this pensions carbon dated monuments at 2600 BC. Mayan Temples came later

[12] http://en.wikipedia.org/w/index.php?title=Hinduism&oldid=402235338#History

[13] http://en.wikipedia.org/w/index.php?title=Evolutionary_origin_of_religions&oldid=396840736#Increased_brain_size -- "During human evolution, the hominid brain tripled in size, peaking 500,000 years ago."

Simply put, the scientific & archaeological evidence reveals an inexplicable Gigantic Leap Forward which just happens to coincide with creation narratives. There is a wealth of evidence that the planet has existed a long time with a great diversity of life, and even with near human creatures, but culture, art and religions mushroomed very recently. It is not for *Awoken Evolution* to try and assert that some form of creation event occurred about five or six millennia ago, but we should merely note that something happened which does not sit easily with the supposed gradual development of Homo Sapiens. This Gigantic Leap Forward was not in keeping with any particular evolutionary gear change as there is no evidence of such special change. Furthermore, such change does not go back to any single ancestor as one would expect to find with the application of phylogenetics.[3] Curiously, human populations also sharply rose across the globe at a time when culture, art and religion mushroomed.

No such argument would be complete without examining any significant exception, and the prehistory of the Indigenous People of Australia, otherwise known as the Aborigine People, certainly does present an interesting aside. The time of arrival of these indigenous people in prehistory is of course uncertain with dates ranging from about 40,000 years ago to 120,000 years ago[4] with the consensus of opinion falling around the 40 to 50 millennium mark. It is thought that people moved between Australia and New Guinea up until about six or eight millennium ago[5] albeit by boat[6]. It is unsure when Australian Aborigine beliefs emerged, but it is said the earliest evidence appears at around the 8,000 year mark. One article puts this period as the "Earliest visible evidence of Aboriginal belief connected with the Rainbow Serpent. This becomes the longest continuing belief in the world".[7] Some commentators put the time of their development of sophisticated tribal social structures at "the last 5000 years".[8] If this is so, it once again coincides with similar timelines elsewhere across the globe where primitive beliefs and cultures all formed complex beliefs and social structures at about the same time. In the case of Australian development, the social structures almost certainly developed in isolation, potentially as a result of the preceding development of religion which itself is likely to have also developed in isolation (although this last point is far from definite).

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[1] http://en.wikipedia.org/w/index.php?title=Evolutionary_origin_of_religions&oldid=396840736#Origins_of_organized_religion

[2] ditto - http://en.wikipedia.org/w/index.php?title=Evolutionary_origin_of_religions&oldid=396840736#Origins_of_organized_religion -- table shows a social evolution of Tribes to Chiefdoms about 3000 BC or 5000 years ago

[3] http://en.wikipedia.org/w/index.php?title=Phylogenetics&oldid=399118486

[4] http://en.wikipedia.org/w/index.php?title=Indigenous_Australians&oldid=401621140#History & http://en.wikipedia.org/w/index.php?title=Prehistory_of_Australia&oldid=391996959#Arrival

[5] http://en.wikipedia.org/w/index.php?title=Prehistory_of_Australia&oldid=391996959#Contact_outside_Australia & http://www.creativespirits.info/aboriginalculture/history/aboriginal-history-timeline.html -- "approx 8000 years ago: The Torres Strait Islands are formed when the land bridge between Australia and New Guinea is submerged by rising seas"

[6] http://en.wikipedia.org/w/index.php?title=Prehistory_of_Australia&oldid=391996959#Arrival -- "..the sea still presented a major obstacle so it is theorised that these ancestral people reached Australia by island hopping"

[7] http://www.creativespirits.info/aboriginalculture/history/aboriginal-history-timeline.html

[8] http://en.wikipedia.org/w/index.php?title=Prehistory_of_Australia&oldid=391996959#Culture_and_technology -- "The last 5000 years......... There was also a marked continuity of religious ideas and stories throughout the country, with some songlines crossing from one side of the continent to the other."

Indeed, a study of the Aboriginal Dreamtime, although beyond the scope of *Awoken Evolution*, would point to this fascinating belief set as anything but an "interesting aside". For those curious enough to want the briefest of introductions, Wikipedia[1] gives the following summary: "They believe that every person essentially exists eternally in the Dreaming. This eternal part existed before the life of the individual begins, and continues to exist when the life of the individual ends. Both before and after life, it is believed that this spirit-child exists in the Dreaming and is only initiated into life by being born through a mother". According to Wikipedia[2] sources, there is significant evidence that some Dreamtime "myths" coincide with geological events that occurred as long as 10,000 years ago. If such a belief set predates modern religions, one wonders to what extent it should be considered parentage rather than an aside.

Another interesting observation is to note that the arrival of Aboriginal religion did not coincide with or emerge as a result of agricultural collectivism and population rises. This is because the Australian Aborigine People remained nomadic hunter gatherers, despite their complex tribal social structures, until Western societies rediscovered them in the last few centuries. This is a large exception to theories concerning religious awareness arising from agricultural collectivism. Again, if it was after the rise of the Aboriginal Dreamtime belief that humanity elsewhere switched from hunter gatherer habits to agricultural collectivism, then one has to wonder if Aboriginal Religion leaked back into the rest of the world's hunter gatherers and caused the Gigantic Leap Forward as we have dubbed it.

Of course, it may have been that religious sensibilities simply descended upon humanity everywhere before some humans ventured into Australia, but if so, such religious activity certainly survived and prospered during the continuation of a hunter gatherer way of life. Such a possibility might also indicate that religious sensibilities in mankind predates agriculture and collectivism, thus becoming the catalyst for advanced societies in the period we have dubbed the Gigantic Leap Forward. And yet, if that were so, why were all the great religions and beliefs so dramatically different?

With everything taken into account, we are left with very little discernible reason as to why organised belief suddenly descended upon mankind around the time we have dubbed the Gigantic Leap Forward. The diversity of belief, from Hinduism through to monotheism, means there was no common starting point. This combined with Australian history discrediting the theory of agriculture and collectivism spawning belief, along with the simultaneous sharp rise in population and culture in diverse ethnic and global locations, leaves us struggling to find other theories for the spontaneous global arrival of enlightenment. Possibly there was some other behavioural change that preceded and spawned the Gigantic Leap Forward. For example, a behavioural change that would have spread like wildfire across the globe is escalating aggression giving rise to organised warfare. And yet once again Australia may be the exception if there is no evidence of organised conflict anywhere near the scale that we know occurred in ancient times elsewhere.

In conclusion, the evolution of modern man is not as clear-cut as we might imagine. Perhaps evidence of the missing link has been found in terms of speciation from ape to some kind of primitive humanoid, but not so obviously in terms of the relatively sudden appearance of enlightened humans in the timeframe we have dubbed the Gigantic Leap Forward.

The creationist with specific beliefs may feel this analysis of the emergence of religions plays into the hands of evolutionists, but as a broad concept, the emergence of intelligent belief and modern man went hand in hand, not so long ago, and certainly nowhere near as long ago as Cro-Magnon man.

Let's continue our look at evolution's credibility gaps within other aspects of the theory of evolution...

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[1] http://en.wikipedia.org/w/index.php?title=Dreamtime&oldid=401753960#The_Dreaming_of_the_Aboriginal_times

[2] http://en.wikipedia.org/w/index.php?title=Australian_Aboriginal_mythology&oldid=398941483#Aboriginal_mythology:_Antiquity

4.2.2 Kickstarting, Species Jumps

Speciation (species jumps) has always been something of a cause celeb for creationists because they can be difficult to explain. One of the better explanations is given by Richard Dawkins in his book *The Blind Watchmaker* in which he describes how geography can have a surprising effect[1].

In this, Dawkins observed that speciation layers are separate in the fossil record due to splinter groups moving away geographically, for example with the movement of a single family of cats to a different valley whereupon they then evolve separately and independently. This geographical separation is a perfectly good theory for moderate speciation jumps, such as we see between lions and tigers. However, the bigger evolutionary jumps or "species jumps" are segmentation, multipart evolution, and chromosome jumps.

Segmentation refers to change in the number of vertebrae or digits or bones in limbs and so forth. Multipart evolution refers to items that had to assume multiple steps of evolution at once, such as a bee sting mechanism which would need to evolve a pump and injection mechanism simultaneously, either of which would be useless to the survival of the species without the other. Finally, chromosome jumps are large changes in the way DNA strands are organised, such as the changing quantity of chromosomes between apes and man. Let's take a moment to consider these.

> In *The Ancestor's Tale*[2], Richard Dawkins says "..., when segmentation originated, they must have been a mutation or transition" [from one vertebrate to two or more etc]. "It is hard to imagine such a freak surviving, let alone finding a mate and reproducing". This highlights the problems of speciation or species jumps. In general, the area in his book quoted from was talking about how snakes have varying numbers of vertebrae and how each vertebrae comes complete with its nerves, ribs etc and thus constitutes a "segment" -- so the quotation is talking about the jump from the first basic organism that had one or two vertebrae and then evolved to multiple segment animals such as we see in mammals etc. One could wonder further at the emergence of organs in a similar light. When did multiple vertebrae become rib cages and how did lungs emerge inside them?
>
> Some speciation, including the emergence of lungs, can be theorised as gradual. A good example might be the emergence of wings. On the face of it, it is difficult to imagine how stumps started to sprout gradually getting bigger and bigger until they formed wings, but further analysis will easily show that it is probable that stumps immediately gave advantage in manipulating things, eventually became limbs, then excessive growths of scales, hairs and feathers (all genetically similar) would have given creatures an advantage when jumping, similar to the excessive growth of loose skin on flying squirrels, until eventually longer and longer jumps became flying.
>
> However, other gradual speciation is more difficult to theorise. The bee sting, the single celled bacteria with a swimming flagellum (something akin to a microscopic rotating propeller), and even self-awareness, etc.
>
> In *The Blind Watchmaker*[3], Richard Dawkins discusses Bombardier Beetles. He pauses to criticise the intelligent-design lobbyists by saying that they are wrong to suppose the bombardier beetle could not have evolved the ingredients for its hot spray without killing itself (simplistic abbreviation). He gives excellent evidence about the catalysts and rightly criticises the lobbyists for exaggerating the strength of the ingredients. However, as he had just finished discussing gradient steps in evolution, eg: how a very bad eye is better than no eye at all (which one can only agree with), one was rather looking forward to an explanation on how on earth an incomplete and thus ineffective spray mechanism, having surely not evolved all of its parts at the same time, was better than no spray at all? In the interests of exploring a complete debate, it was noted elsewhere that the wasp

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[1] See also "Bibliography & Media References"

[2] "The Ancestor's Tale" book, "A Pilgrimage to the Dawn of Life", by Richard Dawkins, published by Weidenfeld & Nicolson, the Orion publishing group, Wellington house, 125 Strand, London WC2R OBB, ISBN 0-297-82503-8, referring to Page 502 of that print

[3] The Blind watchmaker, Richard Dawkins Penguin books, first published in 1986, reprinted with an appendix 1991, ISBN 0-14-014481-1, printed in England by Clays Ltd, St Ives PLC, referring to Page 87 of that print

> sting was originally a sperm delivery mechanism, ie: an insect penis. Perhaps the bombardier beetle developed its mechanisms from similar reuse.
>
> Also in *The Blind Watchmaker*[1], Richard Dawkins says that chimps are a different species to us as they have a different number of chromosomes (ie: 48 instead of our 46[2]). This chromosome jump would appear to make species jumps (eg: the iconic "missing link") seem improbable. However, it should be noted that chromosomes are simply groupings of genes. Indeed, to be fair, it should be noted that the smaller number of chromosomes is attributable to two pairs of chromosomes fusing together, and the fusing of previously unfused chromosomes would appear to favour the theory of evolution[3]. Whilst fusing of chromosome pairs would be a rare mutation, it conceivably could have occurred more than once in the siblings of a single family of apes/chimps who then mated with each other to form the start of the human race. Furthermore, additional chromosomes in human beings are quite common leading to conditions such as mongolism[4]. Such chromosome-count fluctuations are apparently quite common as they are free-floating portions of DNA in the cell that only line up when cell division occurs.

And then the biggest evolutionary jump of all was of course the first... how, in an environment where there were no previous cells, did a cell firstly self-create and secondly replicate?

Whilst Darwin's general theory of evolution gives a credible theory for life after the first "replicators" (simple cells capable of dividing), it required that cell replication started spontaneously. This in turn required that many complex molecules accumulated in an accidental formation that constituted a cell structure with the substantial minimum capability of being able to divide. Whilst crystalline structures[5] do act as a catalyst to seed further crystal growth, there is a leap between that and the most basic RNA duplication that dwarfs any species jump.

Another evolutionary jump of technically gargantuan proportions is the shift from procreation by cell division to procreation involving pairing and sexual preference. For evolution to be enhanced by the opposite gender in a pairing, there had to be several mechanisms working together. There has to be a mechanism (egg, ovulation, sperm, fertilisation), and then intelligent cooperation and attraction (with sufficient intelligence to be able to identify and select better breeding partners, to copulate).[6] For such sexual attraction to work, the organisms in question would have to be capable of some means of determining whether or not a potential partner was attractive or behaved attractively, perhaps rudimentary vision but more likely something as simple as smell associated with size which was in turn associated with success. Regardless of how much we presume to simplify, creatures that form breeding pairs would have to be surprisingly complicated or otherwise there would be no advantage. And all at the same time, these creatures would have to take another jump from simple cell division to somehow permit genetic mixing between cells.

Can we imagine how some kind of freak mixing of DNA caused greater diversity and evolutionary advantage thus spawning paired procreation? Well, at a stretch of the imagination, yes we can. The individual cell is an extraordinarily complex machine and single celled creatures could simply start expressing a preference for larger single celled creatures or pairs of cells that had not split off properly by simply moved towards them. Then, genetic mixing could occur through a variety of possibilities including viral transfer[7] or just by proximity.

So, leaving these initial evolutionary jumps to one side, one theory that does allow unusual emergence of features such as stings, ornaments (display feathers etc), and even conscious awareness, might be something we call a *Genetic Bubble*...

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[1] as referenced preceding, referring to Page 118 of that print

[2] For chromosome counts, See http://en.wikipedia.org/w/index.php?title=Chromosome&oldid=291688325#Eukaryotes and http://en.wikipedia.org/w/index.php?title=List_of_number_of_chromosomes_of_various_organisms&oldid=287283219

[3] See next passage, paragraph 12

[4] http://en.wikipedia.org/wiki/Chromosome#Chromosomal_aberrations

[5] See also 4.2.3.1.2 "Clay Crystals"

[6] See also 4.2.3 "Peacock's Tail syndrome"

[7] Also known as horizontal gene transfer. See next passage.

4.2.3 Peacock's Tail syndrome

First, let's look at the conventional wisdom for why humans possess "self awareness" and why there is our incessant "search for meaning" etc. Whilst obviously a certain amount of intelligence makes us much more successful in survival matters requiring aggression and self preservation, it appears to be agreed that culture, poetry and art are an extension of intelligence that don't directly aid survival and thus don't contribute to evolution through natural selection.

As we will show, current thinking is that these "extras" are something of a genetic bubble, along with the exotic but debilitating plumage of birds of paradise and the toucan's huge beak. An excellent example of an ornamental feature that clearly does nothing to enhance survival would be the giant Peacock's Tail. It is this genetic bubbling phenomena that is claimed to be partly responsible for the excessive development of the human brain in that it is considered to be an attractive feature to the opposite gender of our species. That is to say, intelligence can be seen as "ornamental".

As said, extra intelligence obviously helps survival. Perhaps culture, poetry and art is simply explained as a means of providing social cohesion, facilitating better communication and thus survival teamwork. However, what of those more esoteric features of spirituality and academia, especially our fixation with the afterlife and self-awareness? Interestingly, like exotic plumage, excessive intelligence can be debilitating given that it can lead to sensitivity, neuroses and depression.

In his book *The Blind Watchmaker*, Richard Dawkins[1] discusses the topic of Positive Feedback in the chapter titled Explosions and Spirals[2]. This explains how a genetic trait, such as plumage, is passed on in the female's preference genes alongside the ornamental features in the male, ensuring both the feature and the preference for it combine to bring about accelerated evolution.

This amounts to a genetic bubble caused by the combined cumulative effect of showoff and attraction. This complementary interaction of ornament and attraction permits the progress of a specific genetic mutation to continue beyond its original usefulness (in terms of "survival of the fittest"). For example, clearly an ape with sufficient intelligence to develop weapons has a clear advantage. If then the opposite gender of that species evolves a genetic indisposition to be attracted to the trait of increased intelligence, then long after the amount of intelligence required for weaponry was surpassed, ape progeny with greater intelligence (eg: us humans) would continue to attract and be attracted to the opposite gender of the species with the genetically enhanced desire to pair with such an attribute.

Richard Dawkins also discusses later in the same chapter remarked on above that the other main aspect of this phenomenon is that such features are also a display of good health to the mate. The more esoteric features under review (spirituality and academia etc) tend to also be accompanied by gentleness and understanding which would seem to have benefits when raising children.

There are other theories that could account for genetic bubbles in humans and animals including:

- Selective breeding by ancient man (just as modern man has achieved more recently with domesticated pets, race horses and milking cows etc), for example selective breeding to enhance sales of livestock at a market, to adorn a Royal garden with exotic animals. Peacocks in particular have been said to be domesticated for 3000 years[3]. For completeness it should be mentioned that many of the so-called "birds of paradise" evolved in locations unsettled by humans, so this is not a complete sub-theory.
- Loss of survival-of-the-fittest pressures -- where birds in particular could have flown/drifted to islands where there are no predators making the choice for a female less obvious because survival was generally assured for most offspring regardless of fitness (within reason). It is possible this resulted in females selecting other criteria (in the case of birds of paradise that tend to have exotic looking males and plain looking females).

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[1] See "Bibliography & Media References"

[2] for full references, see also "References"

[3] http://www.answerbag.com/q_view/1868458, http://www.ehow.co.uk/facts_7481127_do-wild-peacocks-eat.html, http://www.trevarno.co.uk/about-trevarno/snippets.htm

- Viral Horizontal Gene Transfer[1] or inter-genetic contamination: Recent studies surrounding genetically modified crops and gene therapy reveal that we do receive genes laterally from those around us from the spreading of viruses. As something of an aside, this may account for the observations that gave rise to Lamarckian Evolutionary Theory[2]. "The Chevalier de Lamarck" theorised before Darwin about a form of evolution that he called Acquired-Characteristics. This describes an evolution supposedly fuelled by change, experience, and knowledge acquired in the life of an individual being passed on in the genes to that individual's offspring. Whilst Lamarckian-ism has been discredited, viruses may account for more mutation and more of the apparently uniform mutation required in species jumps. That is to say, a new species requires at least 2 adults of different gender to procreate and perpetuate, and preferably considerably more adults.

Another theory that could account for genetic bubbling and is thus worth mentioning, is that of chance genetic defect.

> This is actually likely in the case of the human brain as we evolved away from the ape principally because there were one or more instances of chromosomes (gene groups) fusing together. On the face of things, it would seem that this has caused a defect that has manifested itself in an obvious loss of instinct, in that human babies are more helpless than almost all other species. We noted earlier how chromosome errors and fusions are sporadically observed even now with mongolism for example.
>
> This loss of instinct is remarkable. We humans are well known to be among the most vulnerable species at birth -- human babies are completely helpless for quite a considerable period of time. Contrast this to plain dwelling herbivores such as gazelles that are up and running within minutes. Consider the extraordinary amount of instruction that must be passed on within the genes to accomplish this. As well as coordination, such animals must possess sight and some understanding of their environment in order to process sight and relate. However, the lack of this instinct appears to benefit humans as it leaves the human brain as empty as a dry sponge allowing us to learn different and more profound skills. Humans are able to evolve as individuals and as a society, educating and filling areas of the brain that would otherwise have already been occupied by instinct or be simply rendered less malleable due to instinct. It may be that dolphins and elephants, two species that also have huge brains, have brains that are less effective than our own due to increased instincts and less malleability.
>
> Birds may also take advantage of learning to increase intelligence in smaller brain masses as they begin life helpless and then learn to fly among other things. Rooks and crows show particular intelligence in toolmaking for example[3]. Cats and dogs represent two more example species that are born helpless and yet are regarded as highly intelligent compared to animals with similar brain masses such as sheep and horses who in turn are not entirely helpless at birth.

So far, in terms of explaining our excessive intelligence and spiritual yearnings, the theory of genetic bubbling appears quite sound. Are there any criticisms or concerns that we should examine?

One concern about the theory is that human attraction to intelligence (by male or female) is not observed in practice. In terms of making themselves more attractive, most humans are more concerned about their looks than their intelligence, and many are attracted less to intelligence in the opposite sex than to looks, fitness, masculinity and femininity. Intelligence is even often seen as a reason for rejection (geek, swot, unfit, bore). Even amongst dating intellectuals, whilst intelligence does undoubtedly become a valid attribute, physical attraction or "chemistry" is usually established first. Power is highly attractive, but power is not necessarily linked directly to intelligence either. It is largely to do with physicality, confidence and more intriguingly the ability to ignore compassion, control anxiety and cope with insecurity -- things which are often linked with less intelligence. Where intelligence plays a significant part in planning, there is a direct link between intelligence and power, but this kind of intelligence is not the kind of intelligence we seek to explain -- ie: the rise of sentient compassionate consciousness, the soul-searching spirituality we all possess.

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[1] http://en.wikipedia.org/w/index.php?title=Horizontal_gene_transfer&oldid=339134430

[2] See http://en.wikipedia.org/w/index.php?title=Lamarckism&oldid=308977819

[3] Clever crow creates a new tool: http://news.bbc.co.uk/1/hi/sci/tech/8029933.stm; Clever rooks repeat ancient fable: http://news.bbc.co.uk/1/hi/sci/tech/8181233.stm; Rooks team up to solve problems: http://news.bbc.co.uk/1/hi/sci/tech/7322113.stm ; 3 Tools: http://news.bbc.co.uk/1/hi/sci/tech/8632670.stm

Another concern about the integrity of genetic bubbling is in the technical detail concerning plumage. Whilst genetic bubbling perhaps adequately explains the driving force behind the size of Peacock's Tails and similar aesthetically evolved artefacts, the extraordinary circular patterns that seem to be painted on some feathers defy explanation. These are feather fronds (known as "Barbs") that emerge from follicles where they start rolled or furled but emerge with colouring occurring in precisely the right sequence, position and timing, so as to give rise to a complex circular shape looking like eyes on a peacock's tail. Examination of the individual feather fronds reveals differences between barbs which appear to involve planned rasterising which is particularly precise on the edges of the circles. This is a DNA synchronising feat which is certainly counterintuitive to any random morphing explanation given by evolution. It would be impossible to imagine such a feat resulting even from deliberate selective breeding, but it is recognized that some explanation is likely to exist.

And so, as we come to the conclusion of this passage, it should be acknowledged that when it comes to finding credibility gaps, these are minor points that only serve to raise minor technical doubts and there are bound to be theories that can explain each discrepancy. For example, regarding the first concern above[1], the different attractions to different kinds of intelligence between humans are fairly tenuous arguments and in any event intelligence is still considered attractive by many. Regarding the second concern above about the eye patterns on peacock feathers, the DNA fractal mathematics are certainly possible.

In general then, the argument for a genetic bubble is reasonably sound -- there are no significant flaws in the theory of evolution here that allow any revelation to the contrary. This might seem to be a disappointing conclusion for creationists but, if we are to gain a credible logical template for pursuing the assertion that there is more to life than meets the eye, then it is important that we be honest with ourselves. Nonetheless, we must also keep our eye on the increasing complexity of this theory of evolution with its many sub theories to patch over anomalies. We certainly can't discredit evolution on the basis of a few anomalies and complexities but where there is smoke, there is fire.

What other technical impurities can we find in the theory of evolution?

4.2.3.1 Common Ancestor

In our search for anomalies in the theory of evolution, let's return our focus to the creation of the first cells and the improbability of all life on Earth using the same DNA language.

It is said there is a common single cell ancestor shared by all living creatures and plant life on earth giving rise to the taxonomy classification of the phylogenetic tree.[2] Furthermore, all cells share the same fundamental DNA language. As if to reinforce the notion, apparently we have significant strands of DNA also found in common with garden peas.[3]

It must be added that there are proteins [4] and viruses as well which are not cell-based, but they are not alien structures in that they work closely with cells and are surely evolved from contact with cells and not independently of them.

Intriguingly, this fact of all cells being related is put to us as if to be proof of the grand evolutionary truth[5]. However, to some, this seems more like proof of creationism. Leaving out any conclusions at this stage, this must surely count as an extraordinary anomaly. The apparent fact is that the original spark of life, the coincidental arrival of self replication, only started once on this planet to our knowledge, and perhaps only once in the universe to our knowledge.

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[1] See prior in this passage, paragraph 16

[2] http://en.wikipedia.org/w/index.php?title=Phylogenetic_tree&oldid=337791558

[3] Richard Dawkins, The Ancestor's Tale -- See "Bibliography & Media References"

[4] Eg: an example of a protein interacting with DNA is Bovine Spongiform Encephalopathy (BSE), commonly known as Mad-Cow Disease (MCD) - http://en.wikipedia.org/w/index.php?title=Bovine_spongiform_encephalopathy&oldid=222480352

[5] Eg: Richard Dawkins, The Ancestor's Tale -- See "Bibliography & Media References"

Let's look at some detailed theories as to how life kickstarted to see if such a lack of fundamental diversification is probable..

4.2.3.1.1 Volcano Vents

One of the theories in vogue at present is that perhaps it wasn't so much the sun's energy that helped to create the cradle for the first life forms, but perhaps it was underwater volcanic vents as they provide a constant source of sufficient nutrients and violent energy as we imagine would be required for such a creative environment.

What about other volcanic vents? Why wouldn't they evolve life differently?

It would have taken life evolved from the first basic cells at one volcanic vent many millions of years to acquire the ability to travel to distant volcanic vents during which time one would have thought that other very different lifeforms would have started at other volcanic vents around the world. The lifeforms at one volcanic vent might have eventually been more successful and drifted on the ocean currents to seed the rest of the world's vents. These lifeforms might then have successfully competed against other emergent lifeforms in other volcanic vents, but this would assume the successful lifeforms had evolved quickly to the point where they could survive the cooler and less hospitable oceans (that contained no other cellular food source at that time), and having evolved resilience to such conditions, be able to evolve backwards to colonise other volcanic vents and succeed against, eventually annihilating, any different emergent lifeforms at those other vents.

However, nature does not support this idea -- lifeforms tend to feed off other lifeforms, complementing each other. If one species dies out, other species tend to be adversely affected. On the other hand, if one lifeform has nothing to do with another remote lifeform, why would the other lifeforms simply die out?

The point of this passage is to ask the question, is it really likely that we are all descended from one simple lifeform with the same DNA language? Is there a different conclusion crying out to be discovered?

Some say it took nearly a billion years for the first life to emerge, so perhaps the spontaneous emergence of self replicating cells is so rare (for example, once in a billion years), that the chances of a second alternative emergence of life on the same planet anywhere near the same time, is virtually nil. However, such an answer would demonstrate how fantastically improbable self-creation is.

Next we look at alternatives to volcano vents..

4.2.3.1.2 Clay Crystals

Another popular hypothesis, other than the *volcanic vents* of the last passage, is that the first replicating cells started in the crystalline formations of clay.

Clay or silicate minerals are hypothesised as the kind of Matter we ultimately descend from because it is thought that the original self replicating cell may have evolved from crystalline structures (which are basic self replicating structures) of the kind that are found in clay.[1]

Crystalline formations are naturally repeating patterns of deposited atoms, and in some ways could be thought of as the simplest and earliest self replicating substances. Apparently clay has an extraordinary variety of submicroscopic formations when viewed under an electron microscope, and out of variety, it is reasonable to suppose the first basic strands of RNA appeared, giving rise to simple replication capable of evolving.

Indeed, it is said that clay under an electron microscope is a minute wonderworld of crystalline structures. Naturally the cells that now make flesh and bone also consist of many other types of matter, amino acids, carbohydrates, minerals, etc, but it is conceivable that these additional molecules and chemicals found their way into the process of natural selection starting with RNA division founded in silicate minerals.

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[1] http://en.wikipedia.org/w/index.php?title=Abiogenesis&oldid=361146567#Clay_theory

However, these same questions about a common *single cell ancestor* arise as they did regarding *Volcanic vents*. Clay is an abundant resource on earth, and it seems likely life would have started in more than one place at once. If cell-life spontaneously appeared approximately 3.5 billion years ago, why hasn't any other completely different cell-life spontaneously started since?

4.2.3.1.3 Cells and Seed Bags

One thing you will hear a lot when you are talking to an evolutionist is just how much time has gone into evolution -- about 4 billion years. A huge sum indeed. With such a profound amount of time, surely anything could happen.

But is it such a huge number?

One of the reasons that it is such a baffling number is that it is hard to visualise. So let's visualise it.

First, let's visualise one million. Imagine a metre rule -- a metric yardstick. If you count each millimetre mark, you will of course find there is a thousand. Now, on a large piece of paper, draw a line at right angles to each millimetre mark. Next, take another yardstick and lie it at right angles. Draw a line at right angles to each of its millimetre marks -- and of course you will be creating a fine mesh grid. Labourious, but quite doable within an hour or two. Once you have finished your grid, you might like to note that you have created one million squares. Of course it isn't suggested you actually do this, but one can imagine quickly doing such an exercise which is to prove the point that they can easily create and/or visualise a million "somethings"

Next, let's visualise one billion. The next time you're passing a small construction site, notice those large cubic metre sacks of builder's sand. If a particularly course grain of sand occupies on average a 1 mm cube of space, or perhaps better still a small seed that occupies the same space, then that cubic metre sack of builder's sand will contain 1 billion grains of sand or 1 billion such seeds.

Now simply visualise four builder's sacks of sand and we're done!

Okay, so that's 4 billion years and cells can divide many times in a year. The fastest multiplying bacteria require approximately 15 minutes between generations[1]. Of course getting any sort of cell division going is quite a feat, but it is reasonable to suppose that it wouldn't take long before they were dividing fast. Very fast cell replication in the order of less than 15 minutes is quite rare so let's settle on a 30 minute average cell division rate over the first 2 billion years (about the amount of time it took for cells to start getting clever).

That's about 17,000 times a year, so for the first 2 billion years, that's... 34,000 builders sacks of generations (34 trillion generations represented by one seed each).

That's a small warehouse with a large stack of 32 sacks wide by 32 sacks deep by 32 sacks high.

That's a lot of seeds and a lot of potential steps that evolution can take in order to create the beginnings of living organisms, cells which are complex enough to join forces and become organisms. Nonetheless, the number is not so great that it is beyond our imagination. We can still grasp each one of these seeds.

But to a computer, these numbers are even less large. Why haven't we created or simulated evolution in a computer? Not just simple simulations which adapt to change, but real "something from nothing" procreation of something new and useful?

Personal computers at the time of writing commonly have 2 billion bytes of memory, and many of the more powerful computers have multiples of this amount. If such a computer has 300 MHz memory chips fitted, it can scan 4 billion bytes in under 15 seconds. If it has a processor producing 1 gigaflop of simple instructions (that's one billion simple arithmetic operations per second), then it could count to 1 billion in 1 second.

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[1] "In one study reported by Labbe, a mixture of C. perfringens strains had an average generation time of 13 minutes in ground beef held at 40oC (1989, p. 196). C. perfringens is one of the fastest multiplying bacteria" http://www.ers.usda.gov/publications/aer741/aer741.pdf and http://www.ers.usda.gov/publications/aer741/AER741c.PDF

That 34 trillion generations of cells would take a 1 teraflop supercomputer 34 seconds to count. The latest supercomputer running 1.64 "petaflops" (1640 trillion flops) can count that in 0.034 seconds with time to spare. As true "flops" are a measure of Floating point Operations Per Second, that supercomputer, given a few minutes or hours, could do some quite profound calculations on each one of 34 trillion generations. To really simulate evolution, it might take a few days and quite a lot of memory to simulate any reasonable environmental expanse that would allow the kind of variety that we see in real-world environments.

Computers have been around a long time now comparatively speaking -- and yet with all this phenomenal computing power, the equivalent of many very fertile volcano vents, it should be possible not only to develop a small algorithm that evolves into something useful, such a small algorithm as is needed to seed such evolution should itself spontaneously come into existence without any intervention from a programmer. There are plenty of examples of synthesised evolution, and even examples of computer viruses that have been said to evolve (although a more critical examination might reveal that they are not really evolving at all but they were simply programmed to mutate and change). However, to my knowledge as a computer analyst, there are no computer algorithms that have genuinely evolved into something else, something better.

And perhaps that's a good thing! Perhaps such evolution has been made to occur already and the idea of canned evolution is too frightening to make public, but it seems more likely that the reason we haven't heard about any successful truly evolving computer algorithms is because it hasn't been done as simulating evolution just isn't that easy.

As an aside, I myself have experimented with evolving computer algorithms. They were made to attack and defend and were allowed to evolve different characteristics which may vary in their ability to attack and defend, such as speed, size etc. About the only interesting conclusion was that this electronic Petrie dish tended always to self-destruct. To get a stable society that did not exterminate itself took quite a lot of intervention in terms of setting variables such that they would not run out of food, become too large, etc. Evolved spontaneous life should be easier to kickstart!

What can we conclude from that? The point is we can't just dismiss the improbability and complexity of evolution as being down to an unthinkable amount of time. However, to say that evolution is difficult to simulate certainly doesn't confound evolution although it does raise questions about how evolution occurred spontaneously when we have difficulty simulating it in an environment that is made ideal.

4.2.4 Is this really getting us anywhere?

All these statistics, hypotheses and mathematical conundrums are tempting cannon fodder for creationist advocates, but when one examines them, they don't reveal a large credibility concern for the advocates of evolution. Evolution is simply emergence and we see emergence in the way complex systems arise out of simpler interactions all around us as in the examples of crystal growth, rainbows, disease mutation, stalagmites, et cetera. Put simply, evolution adds up!

Perhaps evolution is meant to add up. Is it perhaps a red herring, a diversion, a logical framework which allows us to immerse ourselves in reality and academic puzzles should we wish to deny a metaphysical input? Is it merely a distraction, a facade? There are some grounds for concern with evolution's credibility as there are with any theory, but the oft-found theological obsession with trying to expose evolution as a faulty logic seems to be succumbing to filibustering in that it diverts us from asking the harder questions of science about the emergence of matter and consciousness from nothing which we will come back to later.

In our search for a deeper truth about the origins of our existence, perhaps it would be wise not to debate the fundamental merits of evolution head on. By focusing on evolution, we are choosing the wrong battleground for our debate, the wrong field for our search.

That said, we should note that when it comes to exploring our origins, scientific theories extend beyond evolution. Before we can mount a riposte, we need to see what science and medicine has to say about another great anomaly we choose to do battle over, consciousness itself.

Next, we submit quintessential consciousness to the same cold atheist logic..

5 Debunking Quintessence

If the aim of *Awoken Evolution* is to support the abandoned thinking person who questions that which is beyond him or herself, then our acquiescence to the theory of evolution, as in the last chapter, might seem a depressingly retrograde step.

Unfortunately, the inquisition must continue, this time examining the credibility of our argument that Quintessential Conscious Awareness is something metaphysical.

Any premise about Quintessential Consciousness being incorporeal as opposed to neurally bound, presupposes that there is such a thing as Quintessence. Perhaps there isn't? Perhaps it's a logical fabrication? Perhaps we are building on flawed premises?

Now that we know that the theory of evolution cannot be so easily decried, we have to move into the realm of our inner consciousness again and pick apart "Quintessence" as the title that we have adopted for quintessential conscious awareness. We have to challenge every aspect of our thinking.

To those looking for proof that creationism is not an unfounded belief, we ask for patience. First it is necessary to show that we have examined in great detail both sides of the great debate. That said, some of this chapter, especially towards the end, can appear to be quite critical and even scathing of theistic logic, and thus an increasingly uncomfortable read for those who aspire to increase the relevance of creationism. On the other hand, given the right kind of humour, one could see it is a bit of a dig at the presumptions of non-theistic logic. It may seem convoluted, but we will effectively be making presumptions about the presumptions of non-theistic thinking, which is better than ignoring the other side of the argument. However, we will not avoid robustly examining even the most ingenious and difficult counterarguments to the metaphysical. There are sound logical arguments for consciousness within a rationalised existence based on evolution, and we must give them full credence before offering our rebuttal.

5.1 Conventional Wisdom For Consciousness

The premise behind quintessential conscious awareness is that it is incorporeal. Is this a theory and is it falsifiable? Karl Popper was the renowned philosopher of science who established the principle that falsifiability was the difference between science and non-science.[1] If a theory is not falsifiable, then it is not a scientific theory. This is broadly speaking what makes any specific theory about creationism a non-science -- it isn't falsifiable because once we try to ascribe anything to the metaphysical, we can't be proven wrong by observation.

On the face of it, an incorporeal quintessential conscious awareness is ultimately unfalsifiable. The only person we can prove has consciousness is our self, and we can only prove it to our self. Even if we only wanted to do that, what kind of test can we submit the "theory" of incorporeal quintessence to?

One method of testing it would be to attempt to debunk it, to see how it stands up to equal and opposite reasoning. The method chosen here is to test against conventional non-theist wisdom, including medical and scientific theories surrounding the consciousness and the psyche, and extrapolate from them an explanation for those phenomena that purport to be evidence of quintessence.

If we can find another way of explaining quintessential consciousness conventionally, then that surely falsifies the claim to be incorporeal or have a metaphysical ingredient. Incidentally, that makes it falsifiable which also gives it a "theory" status.

In this chapter, we will propose conventional explanations for the various layers of basic consciousness until we reach the inner-self.

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[1] http://en.wikipedia.org/w/index.php?title=Karl_Popper&oldid=405524663#Life

To start with, let's look at a generic, non-theist, scientific description (in terms of a logical and empirical description) of the psyche, of human consciousness and self-awareness. Let's start with a few dictionary definitions of "psyche":

- "The mind, soul, or spirit, as opposed to the body. In psychology, the psyche is the centre of thought, feeling, and motivation, consciously and unconsciously directing the body's reactions to its social and physical environment." -- Science Dictionary 'psyche' on Answers.com[1], 2009.
- "An ancient Greek word meaning soul or mind, it often refers to the mental as opposed to the physical aspects of an individual" -- Sports Science and Medicine 'psyche' on Answers.com[2], 2009.
- "The vital principle or animating force within living beings: breath, divine spark, élan vital, life force, soul, spirit, vital force, vitality. See body/spirit." -- Thesaurus 'psyche' on Answers.com[3], 2009.

Intriguingly, this is a significant improvement on the dictionary definitions we found for "consciousness" in 3.1.2 "Consciousness Defined" in terms of trying to focus on the higher metaphysical phenomenon of quintessential consciousness and therefore "psyche" will be the word we will prefer to quintessential consciousness throughout this chapter. However, as we found in the passage 3.1.2 "Consciousness Defined", if we are trying to rationalise and subject it to reductionism, we find words such as "soul", "divine spark", even "élan vital"[4], which all take us off on an unscientific tangent. Certainly "vital principle or animating force" is a step in the right direction but there isn't a lot for us to get our teeth into as yet.

What we seek is a logical framework to understand brain function to the extent that we can see how such an animating force can come about, how quintessential conscious awareness can emerge. Once again, it is important to emphasise that we are not attempting to show how the brain works and is able to provide alertness and wider consciousness, but how brain function is able to contain an individual perspective, trapping and "knowing" pleasure and pain and a variety of other experiences and sensations, in a way which is owned inescapably by that individual. This is therefore a search for the mechanisms capable of providing nothing short of "quintessential conscious awareness", or as it is academically referred to, the psyche (which we will describe shortly in the passage 5.1.1.1 "Freud's Psyche").

What will follow is therefore an interpretation of consciousness and the psyche, favouring a sterile, empirical view, but an interpretation which also concentrates on the observed qualities of quintessence as we described above. The main purpose of this particular interpretation, or *Dual Reality Model* as we will come to know it, is to create a logical model of brain function at odds with the thrust of this overall dissertation, that could "scientifically" explain our preoccupation with our Inner Self which leads to our propensity towards notions of spirit or soul and also to religious belief.

5.1.1 Scientific Treatment of Consciousness

One of the problems in presenting such a model of consciousness and the psyche is that few non-theist academic accounts concentrating on the inner quintessential conscious awareness can be found that are suitable for general public consumption. Most deal with consciousness in a medical or psychological way, and those that deal with the deeper aspects of quintessential conscious awareness veer off into the philosophical realm with attention to the apparent metaphysical[5] aspects.

To find and present a purely "scientific" description and analysis of the psyche would be somewhat beyond the scope of this dissertation, but as a starting point for anyone wishing to pursue this, 'Psyche' is apparently the name of an official journal of related sciences[1]. This journal is managed by the Association for the Scientific Study of Consciousness (ASSC).

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[1] The New Dictionary of Cultural Literacy, Third Edition Copyright © 2002 by Houghton Mifflin Company. Published by Houghton Mifflin Company.

[2] The Oxford Dictionary of Sports Science Copyright © 1998, 2006, 2007 by Oxford University Press. Published by Oxford University Press.

[3] Roget's II: The New Thesaurus, Third Edition Copyright © 1995 by Houghton Mifflin Company. Published by Houghton Mifflin Company.

[4] See earlier passage 2.2.1.4, "Hammer House of Supercomputers", paragraph 2

[5] "Metaphysics is a branch of philosophy that investigates principles of reality transcending those of any particular science" -- http://en.wikipedia.org/w/index.php?title=Metaphysics&oldid=362667479

First mentioned in *Awoken Evolution* in 2.2 "Who Am I?" and then again in 3.1.2 "Consciousness Defined" apparently the ASSC is "a professional membership organization that aims to encourage research on consciousness in cognitive science, neuroscience, philosophy, and other relevant disciplines in the sciences and humanities, directed toward understanding the nature, function, and underlying mechanisms of consciousness[2]".

Initially it was difficult finding any scientific treatment of the subject but once found, it becomes reasonably apparent this association's research covers all the bases. Whilst research revealed a great deal about the association, at the time of going to print very little could be found detailing or summarising their findings in terms of explaining the deeper quintessential conscious awareness that arises in an individual.

Other than philosophy, the larger body of academic treatment of consciousness would have to be in medicine and so next we will look at the area of psyche study dealing with psychology and psychoanalysis..

5.1.1.1 Freud's Psyche

No such dissertation, especially exploring the conventional wisdom of the psyche, would be complete without referring to Freud and Jung. Freud in particular is regarded as the father of psychoanalysis and we should familiarise ourselves with the basics of Freud's theory of psyche.

Freud's structural *theory of the psyche* can be best summed up by this direct copy from Wikipedia being:

> *Sigmund Freud, the creator of psychoanalysis, believed that the psyche was composed of 3 components:*
>
> - *The id, which represents the instinctual drives of an individual and remains largely unconscious.*
> - *The super-ego, which represents a person's conscience and their internalization of societal norms and morality.*
> - *The ego, which is conscious and serves to integrate the drives of the id with the prohibitions of the super-ego. Freud believed this conflict to be at the heart of neurosis.*
>
> ..(all from Wikipedia, 2008[3]).

Jung's work was similar to Freud (and they were friends) but Jung took a more spiritual look at the subject which is something we are trying to avoid at this point.

This rationalisation of the components of the psyche helps us to see the different layers of consciousness and will assist us when we rationalise consciousness in the following passages. Freud's layers of the psyche are looked at again in 5.1.3 "Freud's Psyche Parallels".

Medicine is an imprecise science at the best of times but when we consider the field of psychology, psychoanalysis has to be one of the most imprecise as it is a method that cannot effectively be put to test because it is a private exchange of words "between the analyst and what Freud as a doctor called the patient."[4], yet medicine is a science, or more precisely it is regarded as both an *art and a science*[5]. Furthermore, psychoanalysis is obviously aimed at health and well-being and of course we are interested in analysing and knowledge. For this reason, we will tend to defer to our own model of consciousness whilst referring to, and drawing comparisons from, these psychoanalysis models of the psyche.

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[1] referenced to as: ISSN 1039-723X, http://en.wikipedia.org/w/index.php?title=Psyche_%28journal%29&oldid=180960295

[2] http://en.wikipedia.org/w/index.php?title=Association_for_the_Scientific_Study_of_Consciousness&oldid=221867901

[3] http://en.wikipedia.org/w/index.php?title=Psyche_%28psychology%29&oldid=225181713#Freud.27s_structural_theory_of_the_psyche

[4] The Penguin Freud Reader, ISBN 14118743 (full: 0-14118743-3), by Sigmund Freud (edited by Adam Phillips), first page of introduction

[5] http://en.wikipedia.org/w/index.php?title=Medicine&oldid=224853334

The following passages thus necessarily takes a different approach to describing the layers of consciousness in order to create a logical model of brain function that is more suitable for allowing us to apply our rationalisation, especially of quintessential conscious awareness...

5.1.2 Layers of Consciousness

Keeping these prior components of the psyche in mind, we will now start to build a description of the different layers or categories of consciousness as they are empirically observed...

We will start with a basic description of consciousness and sentience going through to the more advanced states of psyche including apperception....

5.1.2.1 Basic Consciousness & Sentience

A functioning brain with thoughts being the addition of memories, processing and stimuli, provides basic consciousness. Processing is the key to consciousness in that a brain that has paused renders unconsciousness through sleep, and a brain that has been damaged, is considered unconscious if it is unable to process. Memories and stimuli may be necessary for certain brain functions such as introspection, but processing can continue without them allowing the subject to be considered to be conscious. Empirically, consciousness is only evident if exhibited by an organism that can interact with its environment. On this basis, any organism that acts and reacts, is conscious.

Broadly speaking, all creatures are capable of such consciousness, including insects, mammals, birds, fish. Outside of this group we have all inanimate objects and materials including plant life. There is no ambiguity between these groups except for perhaps animated plant life such as the Venus fly trap and single cell microorganisms.

A slight further refinement of basic consciousness would therefore include only Mood Consciousness, thus ruling out Venus fly traps and other microorganisms. Intuitively we regard anything that has consciousness as also having variable consciousness, or moods. Whilst sleep as we know it may not be attributable to all creatures, virtually all creatures show a range of conscious states including want (hunger), fear and aggression, contentment. It would seem most such creatures are heterosexual as well in which case desire is another state of consciousness.

Primarily, the most basic conscious response to stimulus is "kinetic" in that stimuli elicits an immediate response. Pain is an instinctual interpretation of certain types of stimuli and is grouped with other base instincts including sex drive, hunger.

Sentience, as differentiated from basic kinetic responses, is observed as an advanced reaction to stimuli whereby complex organisms exhibit a reaction to pain that persists after a given stimulus is removed. In higher organisms, this contributes to anticipation, struggle, fear, flight and dread. Indeed, anticipation is often exploited by displays of aggression in other complex organisms, frequently across completely different species, as a communication of warning.

5.1.2.2 Emotionally-Aware Consciousness

This is an intermediate category of consciousness that includes displays of affection, joy, pining, grief, loss. For example, many mammals and birds display joie de vivre in their youth, cats and dogs display affection, dogs exhibit loss by pining, and elephants display complex grieving rituals.

Other examples that might fit into this intermediate category of consciousness include albatrosses with complex courtship rituals and mating for life, dolphins with their complex expression of social awareness and sense of care and social responsibility for others within the group (as well as occasionally showing care for others of different species -- as has been exhibited by benevolent actions from dolphins towards human beings).

5.1.2.3 Self-Aware Consciousness

Introspective Consciousness, or self-awareness, is a function of higher brain capacity. Human brains are huge by comparison to most animals, facilitating ample capacity for introspection, self examination.

Other than humans, some other highly intelligent creatures, such as the great apes and dolphins, have also displayed a degree of self-awareness by being able to distinguish themselves in a mirror and spend time regarding themselves. Even some birds have been known to be able to understand a reflection in the mirror is themselves.

This state of self-awareness seems to be exemplified by the individual being aware of its own existence and that its consciousness is independent of other consciousnesses[1]. Individual consciousness is a matter of simple physics given that we are individuated, separated from others.

5.1.2.4 Reality-Aware Consciousness or Apperception

Being conscious of reality, experience and existence, both the reality of the greater universe and of an equal and opposite reality in ourselves, and being able to differentiate between these realities, gives rise to what we will call a Dual Reality state of consciousness only fully appreciated by philosophy and art[2]. These two different realities are similar to those described by Descartes with his study of Cartesian Dualism.

We begin to identify our own inner reality as a different entity to our external reality through examining distortions and differences between external and internal realities. We explore and observe these differences through fiction, art, and sometimes even drugs. Such exploration into "altered consciousness" gives us respect for others with different realities, or at least those who have a different perspective on shared realities, leading us to have respect for different cultures and viewpoints. Much of this exploration is Thought Experiment[3], embodied in philosophy or philosophical fiction such as science fiction.

It seems reasonable to postulate that this duality arises from the way our brains integrate with reality, from the way we remodel reality internally to allow us to sense change and possess better anticipation and prediction and thus improve our reaction to our environment. The best example of this is the way the brain maps our physical environment, our homes and workspaces, into an internal 3-D world for comparison, so that we can anticipate the location of objects, negotiate our way around that environment more effectively. This is simply a matter of speeding up our reactions to improve our chances of survival -- when needed, we can find our way out of a known building very quickly by scanning our brains for information about where the door is rather than scanning the building itself manually as we would in a building that is unfamiliar to us. It can be said that this duality evolved because of its obvious advantages to survival and competition.

Human beings are able to use the ability to reinterpret reality, imagine, simulate and fabricate different realities within our brain to anticipate different realities or appreciate altered and distorted realities.

An example revealing this is to consider the way we see scenery and interact with it. In this instance there is considerable brain activity dedicated to merging dynamically changing snapshots into an internalised 3-D arena. The original snapshots are only two dimensional, poor quality (blurred within a few degrees either side of the centre of vision) and are known to include blindspots where the optic nerve obstructs the retina. However, by the time the external reality of the scene in question is presented to the internal reality, it is perfect and complete, allowing us to calculate exactly how to navigate our way through the scenery. By contrast, the common housefly appears to have a poor understanding of its surroundings and flies in a haphazard scanning motion dynamically exploring its position relative to objects.

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[1] "Self-awareness is the explicit understanding that one exists. Furthermore, it includes the concept that one exists as an individual, separate from other people, with private thoughts. It may also include the understanding that other people are similarly self-aware." -- http://en.wikipedia.org/w/index.php?title=Self-awareness&oldid=224342734

[2] Eg: Inscape http://en.wikipedia.org/w/index.php?title=Inscape_(visual_art)&oldid=279898402

[3] http://en.wikipedia.org/w/index.php?title=Thought_experiment&oldid=361604800

In humans, the *Inner Reality* is considered to be a place where *External Reality* can only gain access by passing through a *Reality Interpreting Brain Layer*, a place where external stimulus has already been assessed and interpreted, or reinterpreted, before being submitted to the self. This reality interpreting brain layer performs an important isolation between the external reality and the internal reality to ensure we do not act on misinformation as might arise from smoke, mirrors and misinformation. In humans it is especially complex allowing us to interpret from photographic images and even written descriptions.

This Inner Reality is pure, a place from which springs all our actions. If we do "lie to ourselves", the delusion or alteration of truth is happening in our brain before it gets to this inner self. For example we might convince ourselves of expertise that we don't have in order to gain advantage in a job interview -- we convince ourselves utterly of the mistruths so that we can more convincingly convince others, but in doing so we might lose sight of the original truth and deceive ourselves as well. The important thing to note is that whether or not the Inner Reality is aware of the deceit, the inner sanctum remains "pure".

This Inner Reality is therefore the final result of all our mind's interpretations and delusions, a lonely, isolated place of *absolute truth* to oneself, attempted perfection and maximised *logical integrity* for each of us individually.

In order to keep ourselves sane, we protect this place of absolute truth, a place where we know our real shortcomings and limitations but a place where such truths are only accessible by ourselves for introspection. This then becomes a lonely place of secret emotion shared with no one else, sometimes referred to as "the inner rose".

It is from this observation of the way our brains work that we can start to see how philosophers such as Descartes arrive at theories such as Cartesian Dualism. This is how non-theist rationale can explain the way we defer our inner selves to the workings of a soul. There is an essential duality working within the complex brain which gives rise to this feeling that we have a spirit deep within.

5.1.3 Freud's Psyche Parallels

Referring back to the earlier passage on 5.1.1.1 "Freud's Psyche", can we see any parallels between our model and Freud's model of the psyche?

In Freud's model, the *Id* is an instinctual drive that impacts on the *Superego* via the *Ego*. In much the same way, our Dual Reality Model determines that the internal reality is kept in harmony with the external reality, the reality that we witness and experience, by the translations of the brain that we labelled the Reality Interpreting Brain Layer. This translation process might be seen as Freud's "*Ego*" barrier that separates the *Id* from the *Superego*.

Whether or not the models have any compatibility, one can see a similar structural way of viewing and rationalising the psyche in such a way that we can see, once again, how there is an essential duality working within the complex brain which gives rise to this feeling that we have a spirit deep within.

5.1.3.1 Observations on Dual Reality

This dual reality model can be further substantiated as a reasonable approach to understanding human consciousness by considering what existing observed phenomena fits the model and what further can be extrapolated.

- This inner reality (and its humble roots arising from the advantage of anticipation and prediction as identified previously) is almost certainly the origins of the feeling of spirit and soul.
- The brain seeks equilibrium and the difference between our Inner Reality and Outer Reality is what motivates us. Our actions stem from attempts to make those two realities equate. If the two realities don't equate, either our brain modifies the way it translates and interprets the outer reality or we perform an action allowing the two realities to be restored to equilibrium.

- Our base instincts (hunger, sex drive, etc) in the Dual Reality Model appear to fit most sensibly when they are considered to derive from relatively external sources, quite possibly from the cerebellum (a distinct and separate part of the brain at the back controlling basic bodily function). Thus, the base instincts are presented to us as part of our Outer Reality meaning that our brain treats them as part of a wider reality to be appropriately processed, translated and weighed against the "perfect" Internal Reality prior to any action being taken. This would likely lead us to exhibit a conflicting character trying to balance between potentially discordant instincts (eg: inappropriate reaction to hunger, fear, or sex drive) and finding harmonious outlets for such instincts.
- It is the sense of inner reality and its difference to the outside world that allows us and even invites us to judge.
- Dreams, especially distorted, bizarre and surreal dreams, can be better understood when we postulate that it is a time when the Inner Reality is dormant or, if we are we aware that the dream is surreal, then the fabricated realities engineered in one part of the brain are not being moderated by the part of the mind which interprets reality (the part we called the Reality Interpreting Brain Layer).
- Stress results from unresolved differences between our inner reality and the external reality we find ourselves in. Our inner reality has created a perfect view of the way things should be which finds itself at odds with the reality around us. Prolonged unresolved differences leads to psychological disorders such as depression.
    - Humour, often thought of as an anecdote to stress, can be thought of as the sensation that occurs when we analyse the difference between the way things are and the way we perceive what they should be. The joy of laughter when sharing humour may simply arise from understanding that other people share our stress.
    - Art[1], especially poetry (including music lyrics) and modern art, can be seen as a more profound example of the same pastime -- ways of easing the friction.
    - This difference, this stress, could also be seen to be the motivation for many pursuits including the advancement of knowledge, science and even the pursuit of religious answers.

        The success of religion is almost certainly derived from reducing this stress, giving us explanations for the cruel incongruities of the world and how they differ from our ideal or perfect internal reality.

        Our internal view of our house is clean and organised, and when our external view reveals our house to be different, we clean it and organise it. We are unable to do so with the "cruel incongruities" of the wider world, so instead we look for explanations that allow the interpretation of the real world to agree with our ideal or perfect internal reality.
- Hypnosis, alcohol and drugs may be considered to all work predominantly on the Inner Reality. The degree to which we become addicted or repelled by alcohol and drugs probably depends on the degree to which our inner reality is altered to reduce (or increase, in the instance of unpleasant reactions) the tension between inner and outer realities.
- A nervous breakdown can best be described as damage in the Inner Reality area of the brain and as such it is not necessarily anything to do with stress. Simple manifestations of brain susceptibility to malfunction include tinnitus and migraines. Someone susceptible to nervous breakdowns presumably has such a susceptibility in the area of the brain that is allocated the task of managing our inner reality. A perforation upon that area would result in a great deal of confusion and paranoia for the individual.
- Schizophrenia and multiple personality disorder are more easily understood when considered in this Dual Reality Model of the human psyche. The single inner reality has become fragmented.

---

[1] See also - "--- ---"

What we have now from all the foregoing in this chapter is a working model of consciousness which stands up to a wide range of observations, including the notion of souls and religion. We shouldn't assume that we have somehow surpassed any other models, but it is a concise model that best suits our purposes of analysing the psyche as in our quintessential conscious awareness.

5.1.4 Sapient Consciousness & Free Will

Having achieved the ability to introspect one's self and become aware of one's inner-self, having then weighed reality, and accepted the possibility of different realities, one returns to observe one's own isolated internal reality.

We refer to the Inner Reality here as an isolated reality because it is "buffered" from the outside world by the hypothesised *Reality Interpreting Brain Layer*[1] activities of the brain.

Of course, from the perspective of personal experience when we choose to observe it, this lonely observer and experiencer is the self, the inner self.

In this most elevated position of consciousness, we have the sensation that we are observing and passing judgement[See next passage, paragraph 2] on what we see (sapience = ability to judge, use wisdom, hence the term Homo Sapiens). We become aware of ourselves as a spectator privately observing the workings of our inner reality as it guides our actions. Of course to say that anything is guiding anything else is to assume the sapient ability of judgement, which in turn requires the apparent act of choice and thus Free-Will.

For the sake of the *Dual Reality Model* we are attempting to theorise, we should remind ourselves that all our apparent use of *Free-Will* can only be virtues, the combination of cultural and moral predispositions, ingrained into the decision-making process amounting to the predetermined results of cause and effect.

> This view of Free Will is called *Determinism* (everything is "causally determined by an unbroken chain of prior occurrences"[2]), and as it will form part of our logical analysis, it deserves some justification.
>
> Determinism is considered by many to be "unbreakable logic" in that any other logic requires the metaphysical. For example, among the various philosophies trying to explain free will, there is Metaphysical Libertarianism, a "view that seeks to protect the reality of human free will by supposing that a free choice is not causally determined but not random either" according to the Philosophy Dictionary on libertarianism.[3] However, this philosophy is considered metaphysical as its title suggests and thus is not helpful to our goal of rationalising.
>
> We do not need to consult philosophy to know that Free Will is a contradiction in terms. As we walk down the street, we may feel we are expressing free will to choose whichever direction seems best, but we don't have the Freedom to exercise the Will of walking through people's gardens -- that freedom is denied us by the law of trespass. When we want to cross busy roads, it would be our Will to be able to walk when we want, but we must await our turn at the lights for our own safety. Determinism in this analogy is more about telling us that we're not even freely choosing which direction to use because the best route is predetermined by its efficiency. It may feel more like free will when we choose a route that is less efficient but more pleasant, such as a route through a park, but even then we are only acting on a predisposition to the more pleasurable and healthier route through the park.
>
> Determinism is far less disagreeable when we realise we nurture and take pride in such predispositions.[4]

---

[1] See also 5.1.2.4 "Reality-Aware Consciousness or Apperception"

[2] http://en.wikipedia.org/w/index.php?title=Determinism&oldid=225600223

[3] The Oxford Dictionary of Philosophy Copyright © 1994, 1996, 2005 by Oxford University Press. Published by Oxford University Press.

[4] See also 5.1.4.4 "Determinism, Free Will and more Wordplay"

Metaphysical philosophy becomes especially fixated on what appears to be the use of Free Will in those more abstract decisions requiring consideration of morality, ethics, and policy. For example, we feel ourselves to be exercising morality when choosing to assist someone and yet, if Free Will is smothered by *Determinism*, we are merely dancing to the fiddle of virtues, predisposition towards morality ingrained by culture and other teachings[1], and thus we merely have an *Illusion Of Free Will*.

> This view of the *Illusion of Free Will* is encapsulated in a philosophy known as *Determinism and Generated Process* which states that "..an illusion of free will is experienced due to the generation of infinite behaviour from the interaction of finite-deterministic set of rules and parameters. Thus the unpredictability of the emerging behaviour from deterministic processes leads to a perception of free will, even though free will as an ontological entity does not exist."[2]

This plays back into the hands of the metaphysical philosophies when it is noted that there is a "feeling", "perception" or "awareness" that we are capable of free will. In other words, it is absurd to say that we are not capable of free will, but then say we are "aware" of using free will.

To further explain this apparent awareness of free-will requires that we must add another element to our Dual Reality Model. This is the Inner Spectator, the Inner Observer, indeed, this is "you", the true inner self.

This *Inner Spectator* is the part of our brain activity that observes those processes within you as they compare outer realities to inner ideals reviewing and choosing what to remember, what to act on, and what to recirculate (in the case of concentration). Anything that simply "sees" is just a camera or an eyeball, but here we are describing something which interprets what it sees and to do that, it must be able to compare what it sees with something else, such as a preferred outcome or the ideals and virtues of our *Inner Reality*. In computer speak, its main function can reasonably be thought of as a Comparator -- software or hardware that measures difference between one thing and another, in this case measuring the difference between the processed External Reality and the relative Inner Reality.

The output from the Comparator guides the hypothesised Reality Interpreting Brain Layer[3] allowing it to find the best way to translate and act on our External Reality to achieve the nearest possible equilibrium with our Inner Reality. Without the brain having some comparison mechanism with which to rate the External Reality against the ideals of the Inner Reality, there would be no means to determine what actions to take.

The simplest real world analogy for this Dual Reality Model is a Thermostat. It's preferred and thus perfect Inner Reality is its setting. The External Reality is the temperature of the room it is in. The thermostat has a comparison mechanism (often a bimetal strip) by which it can choose and guide the heating system to modify the External Reality to maintain a state of equilibrium. Here we can see the Will to maintain equilibrium, and the Freedom to do so. There is insufficient complexity in a thermostat for it to view itself or have any sensation of Free Will, but were it able to view itself, it would consider that it is exercising Free Will as it has the Freedom to do what it Wills or Chooses to do. The act of comparison requires the monitoring of conditions, comparison of them, and output. In humans, these processes are considerably more profound.

In particular, we can sense ourselves monitoring such conditions and comparing them, and so we refer to this monitoring as the *Inner Spectator*.

5.1.4.1 The Spectator Illusion

The problem that arose in the preceding passage is that there is a "feeling", "perception" or "awareness" that we are capable of free will. In other words, it is absurd to say that we are not capable of free will, but then say we are "aware" of using free will. If we are to adequately explain how quintessential conscious awareness can occur without recourse to the metaphysical, then we must address this problem. Thus, we need to understand what this awareness is and explain it.

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[1] See also "Super-Ego" in prior 5.1.1.1 "Freud's Psyche"

[2] http://en.wikipedia.org/w/index.php?title=Determinism&oldid=225600223#Determinism_and_generative_processes

[3] See also 5.1.2.4 "Reality-Aware Consciousness or Apperception"

To summarise the preceding passage, the advanced human brain creates an inner space of ideals and compares the external world to it, acting as necessary to keep these two separate realities in accord. This act of comparison requires observation and judgement[See last passage, paragraph 4] which results in the sensation of spectatorship and choice, giving rise to something we dub the Spectator Illusion.

This mind's eye Spectatorship phenomenon is a byproduct of occasional voluntary introspective observation as follows..

> Firstly, while ever we are awake we are making comparisons and thus judgements. However, during that time we are not always choosing to observe the process. Thus, premise 1 is that spectatorship is not constant but is fleeting, from choice. This is what is meant by voluntary introspective observation, and we will come back to this shortly.
>
> Next, pure observation in its own right is merely a connection, a conduit of information from one point to another. Without the observation being measured or compared, it is the equivalent of connecting a CCTV camera to a VDU (visual display unit) that is buried in the ground. Thus, premise 2 is that observation in terms of the Spectatorship we seek to explain must include a form of judgement.
>
> From this we should deduce that introspective observation, or the Spectatorship Phenomenon that we seek to explain, requires that we compare what we see to something, and for lack of anything other to be compared to, we have to assume the Inner Reality serves this purpose.
>
> Finally, premise 3 -- because observation requires judgement and because judgement is based on Free Will, we deduce that the Spectatorship Phenomenon derives its feeling from the same origins as the Illusion Of Free Will. For more, see 5.1.4.2 "Thinking Exposed To Empiricism" next.
>
> The more we look at ourselves, the more we begin to look at ourselves looking at ourselves and so on, repetitively observing observations in a way that may appear to some as becoming metaphysical. This comes back to Self-Awareness and something described as the "repeated self-identification of oneself" (conceptually attributed to John Locke[1]), something we refer to more simply as "***cascading repetition of introspection***".
>
> As noted above, being aware of one's self is a voluntary introspective observation and there are many times when we are not especially aware of ourselves at all. For example, when doing anything mundane yet sufficiently consuming to prevent self introspection, such as sorting items out, we tend to lose track of time and lose awareness of oneself. We remember what happened, but have no particular memory of self-awareness.
>
> We exist simply because we do, we see ourselves simply because we can, we know we can see because we know what seeing is. Seeing is just a sensation, just the same as is a variety of sensations including pain. Sensation, whether we choose to participate (in the case of seeing) or not (in the case of pain), is experienced in the same process of comparison.

And so we observe ourselves observing ourselves and presume something special in it. Observing is Experiencing and both require judgement in order to absorb and comprehend. All these things can occur and do occur within the human being, and thus we can conclude that all these things are "in the mind". The sense of some ethereal or incorporeal element of oneself being the Observer or the Experiencer is thus illusionary caused largely by a *cascading repetition of introspection* as defined above.

- "Reality is merely an illusion, albeit a very persistent one." -- Albert Einstein.

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[1] http://en.wikipedia.org/w/index.php?title=Self-awareness&oldid=229522191#The_basis_of_personal_identity -- "..conceptualizations of consciousness as the repeated self-identification of oneself, through which moral responsibility could be attributed to the subject.." -- summary taken from John Locke's chapter XXVII in An Essay Concerning Human Understanding 1689

5.1.4.2 Thinking Exposed To Empiricism

An empirical example of the Spectatorship Phenomenon in action is when we write down notes while problem-solving in order to collect our thoughts. Of course, instead of thinking we are the spectator to something invisible and immeasurable occurring only in the mind, we instead can actually measurably view the process by which we compute an interim solution, note that solution down, and then re-observe it and cyclically re-evaluate it.

If we think of this in terms of our Dual Reality Model, we are taking the interpretation produced by the Reality Interpreting Brain Layer, and noting down the result for reabsorption, comparing the resulting interpretation to the goal of our understanding (or whatever goal we are trying to achieve) with the ideal of our Inner Reality, and recirculating the thought as necessary.

In this way we are exposing our thought processes to the real world through the notes that we keep and all can see. We can choose to critically observe ourselves while we are weighing up our solution, and thus we can literally be the Spectator to our own thought process.

Note that we said we choose to critically observe ourselves at the same time -- it is not something that we would normally do because it is distracting, nonetheless, when we choose to be aware of ourselves, when we choose to be the spectator, we can indeed observe ourselves. Therefore, this sensation of self observation, self-awareness, is neither something special nor metaphysical, because it is an activity that we choose to do and a process that can be exposed to empirical observation, exposed to be nothing more special than the reciprocal activity of observing an activity.

Is abstract art simply the act of studying emotion in the same way? Is the canvas an abstract notepad that helps us think or helps us share indescribable emotions so that we might all be able to think them through?

5.1.4.3 Dualism As Wordplay

Is *Cartesian Dualism*[1], as perhaps the cornerstone of Quintessence, mere wordplay?

Essentially, this form of dualism (postulating that the mind cannot be part of the body), perhaps the most celebrated form of dualism, springs from the idea that I can be certain of the truth that "I am thinking" but I cannot be certain about the truth of "what I am thinking about", so therefore I have more certainty about myself "being" than I have about the reality I find myself in.

To borrow from an excellent summary of Descartes' found on Wikipedia[2], "he discovered that he could doubt whether he had a body (it could be that he was dreaming of it or that it was an illusion created by an evil demon), but he could not doubt whether he had a mind. This gave Descartes his first inkling that the mind and body were different things."

This is like saying where is object 2 in relation to object 1? We obviously know where object 1 is, or else the question has no meaning. We can have a discussion about the accuracy of where object 2 is, but we can only have a surreal conversation about where object 1 is, because object 1 was the point of reference for the question. It's all about reference points.

Similarly, if I know about knowledge, then my knowledge of that knowledge is not necessarily stronger than the knowledge itself. I cannot make the statement "therefore my knowledge is stronger than the knowledge itself".

Neither Descartes nor anyone else can actually be certain of the truth that they are even thinking given that all thought is predetermined by determinism. Thus we are left with simply being able to *observe* that we are thinking, at which point we note that Descartes' observation of his thought is another independent thought process. In this way, our thinking could easily be less real than the reality that we equally observe.

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[1] See 6.2 "Cartesian Dualism and its Relevance"

[2] See http://en.wikipedia.org/w/index.php?title=Dualism_%28philosophy_of_mind%29&oldid=224692055#Descartes_and_his_disciples

- The fact that it requires thought to observe takes us back to our hypothesised Dual Reality Model. If we exposed the process of thought as outlined in the preceding passage 5.1.4.2 "Thinking Exposed To Empiricism", then we can actually see how it could be possible for the act of thought to be less real than reality itself.

..

5.1.4.4 Determinism, Free Will and more Wordplay

Free Will:

> Again, if movement always is connected,
> New Motions coming in from old in order fixed,
> If atoms never swerve and make beginning
> Of motions that can break the bonds of fate
> And foil the infinite chain of cause and effect
> **What is the origin of this free will**
> Possessed by living creatures throughout the earth?
> ...Lucretius (ca. 94-ca. 55 B.C.), "On the Nature of Things" [1]

We should add that Lucretius's epic philosophical poem quoted above was based on Epicureanism[2], a system of philosophy rooted in materialism attacking divine intervention[3], and wishing to free the mind of superstition and the fear of death[4].

Determinism would have us believe, indeed "know", that cause and effect is everything, and that our decisions are all the logical consequences of the environment and makeup of the decision maker[5], and thus Free Will is illusionary[6].

What seems to make the logic of Determinism particularly beguiling to the philosopher is that it allows us to conclude that we don't express genuine Free Will when making moral choices, and from this a whole range of conclusions are made to support any number of theories. For example, in the case of deciding to act with philanthropy, or perhaps make our energy available to a charitable cause or whatever, determinism seems to tell us that we were predisposed to act in such a way. This allows some to conclude that morality is illusionary and so debunks any morality based on divine intervention and thus proves the absence of deities. It allows others to conclude that the logical absence of free-will, contrary to the extreme sensation of it, is proof that morality is divine, and so there must be deities.

So we arrive at that classic philosophical impasse -- if Determinism makes Free-Will impossible, how do we live life?

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[1] Titus Lucretius Carus http://en.wikipedia.org/w/index.php?title=Lucretius&oldid=364742842, Latin poet and philosopher, original title "De rerum natura": http://mybanyantree.wordpress.com/category/poetry-physics/ & p43, http://books.google.co.uk/books?id=nPSznx8_XhwC&lpg=PA43&ots=eNOV5Wuekf&pg=PA43#v=onepage&f=false, different translation at p51: http://books.google.co.uk/books?id=ywcFODNLKMMC&lpg=PP1&lr&as_drrb_is=q&as_minm_is=0&as_miny_is&as_maxm_is=0&as_maxy_is&num=20&as_brr=1&pg=PA51#v=onepage&q&f=false

[2] http://en.wikipedia.org/w/index.php?title=Epicureanism&oldid=362413873

[3] Third sentence http://en.wikipedia.org/w/index.php?title=Epicureanism&oldid=362413873

[4] http://en.wikipedia.org/w/index.php?title=Lucretius&oldid=364742842#Purpose_of_the_poem

[5] "Determinism is the philosophical proposition that every event, including human cognition and behaviour, decision and action, is causally determined by an unbroken chain of prior occurrences" -- http://en.wikipedia.org/w/index.php?title=Determinism&oldid=225809575.

[6] http://en.wikipedia.org/w/index.php?title=Free_will&oldid=343211520#Determinism_and_emergent_behaviour -- "In generative philosophy of cognitive sciences and evolutionary psychology, free will is assumed not to exist. However, an illusion of free will is created, within this theoretical context, due to the generation of infinite or computationally complex behaviour from the interaction of a finite set of rules and parameters."

First, we should examine predispositions and their use in proving determinism. Predispositions, virtues and morals all affect free-will in a way which is in addition to normal logical factors such as self-preservation and personal advancement. The problem seems to be that Determinism is held to be naturally disagreeable to those who feel that such predispositions are external "forces" and external influences, but that simply isn't the case. They are internal forces that possess us, that are part of us and are owned wholly by us. They give us pride that we should be possessed of such predispositions as being motivated, successful, charitable (or whichever direction the apparent act of free will should take us).

Determinism is a little bit like being made of magnets that pull ideas from one direction to another. The idea of Determinism is only sterile, bland and even depressing if we consider these magnets are something we have no influence over, and if we thus conclude we must do what is preordained. This is called fatalism[1]. However, if these magnets were virtues instilled by family values and inherited genetics, were nurtured by us, were influenced by the magnets of culture and teachings, then we take pride in them in the same simple way we take pride in our robustness, physique, culture, education.

This is welcome determinism, a willingness that drives us, a highly developed spark that evolution has found and nurtured over the millennia, handing down to each of us as a dread of failure and an enthusiasm for life. There is nothing synthetic about being driven to fight a particular cause or succeed at a particular vocation, it is part of us, an overflowing energy that must be satisfied, that makes us want to take the right decisions, choose the right paths. These predispositions give us Will, which we are automatically inclined to act on, to act Freely, to exercise Free Will.

When looked at in this way, Determinism ***is*** Free Will.

So what is wrong with the presumption that Determinism makes Free-Will impossible? If we are happy with the statement of Determinism, then might the problem lie with Free Will as a statement?

It seems that Determinism might never have been a philosophy at all if no one had ever concocted the term Free Will. This is surely wordplay, surely a contradiction in terms, because Will is something which is naturally pre-existing and thus predetermined. We are quite happy to note that we have the will to eat, the will to walk somewhere pleasant, or the will to succeed, etc. However, the freedom to pursue our will is granted by the worldly reality we find ourselves in -- if there is food to eat, if there is somewhere pleasant to walk, and if our will to succeed is sufficient to overcome competition then we feel free to pursue such wills. Likewise, if Will be thought of as a moral commodity, we might have the Will to Choose to do good, charitable or constructive works. Again, such laudable desires are an obviously welcome predisposition and the freedom to act on such a Will is granted or denied by worldly constraints, whether or not we have sufficient resources for example.

It's true that we don't have such freedom of will that we can oppose obvious choices. We don't normally have any predisposition to stop eating, to take unnecessary and unpleasant walks, to become determined to fail. To clarify, desire is Will, and we don't normally desire to do undesirable things..

This allows us to examine one of the confusions that the word "Free" in "Free Will" seems to introduce in that might indicate we expect to be able to change our Will randomly or fatuously. From a predisposition to explore curiosities and distortions, we might indeed try changing our Will randomly and fatuously as an exercise, but even then it is only an act of will based on predispositions. The result would simply be to vandalise the purpose of our will. For example, we might say we have the will to watch a certain television programme because we have a predisposition to desire relaxation & entertainment, but if we make that will "free", it would be to suppose that we might fatuously decide not to watch. This should not be confused with saying that we are exercising Free Will as a moral choice because perhaps the TV programme is immoral, because that is simply acting on virtuous predispositions and is not exercising a freedom outside those predispositions at all.

The two words "Free" and "Will" contradict each other because Will suggests a desire that is decided, fixed and thus predetermined. The word Free suggests something undecided, open to change.

The American Heritage dictionary defines Free Will[2] as:

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[1] http://en.wikipedia.org/w/index.php?title=Fatalism&oldid=362214688

[2] The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company.

- The ability or discretion to choose; free choice: *chose to remain behind of my own free will*.
- The power of making free choices that are unconstrained by external circumstances or by an agency such as fate or divine will.

It seems this could be interpreted on two levels.

In the real world, there is no doubt we have the freedom to make whatever choices we want, provided it is practical. Our freedom to desire a choice isn't normally constrained by external circumstances (barring influence by drugs etc), but the choice we make can certainly be influenced by it (eg: we can decide we want to walk a certain route, but find we have to walk a different route because the first one is closed).

In the philosophical world, it seems the concern is that "choosing" and what we "want" is not free, and that these things are automatic and predefined. However, in the real world we accept that what we "want" is usually well defined in advance, and to say that "choosing" is thus automatic (after weighing the options) is to state the obvious. Therefore, it is quite natural that we should "feel" (and thus "observe" that we feel) that we have the power to choose.

If we think of Free Will as what we want, and if we accept that what we want is something we define early on in life, then the Freedom to Choose anything we want (with the emphasis on "want") is perfectly normal.

Whether or not we ever exercise morality (one focus of the philosophical debate) depends on whether or not we had such virtues in the first place. I suspect all of us have instinctive tendencies towards morality, love, compassion, but the biggest difference is how we interpret and balance those virtues. This interpretation itself is simply another welcome predisposition, genetically and environmentally founded. The origins of morality as a genetic and cultural attribute probably evolved as was necessary to ensure tribalism and teamwork, all very helpful to the survival of the fittest in groups.

This continuum of predisposition, battered by the storms of chance and constantly revised by survival of the fittest, is not just what determines what choices we make but it also determines our desires, our morality, and even the interpretations we apply to such virtues. Thus it is no wonder that we are constantly wanting to express Free Will in pursuit of those desires and moralities.

When examined as above, the term "Free Will" starts to look like a classic Fallacy[1]. We could be scathing about the incongruity of the two words -- we could say that once we have "Will", we have decided what we want. To suggest that Will should be still "Free" after we've decided what our Will is, or to suggest it should be subject to yet more morality at the instant of making any decision, is surely a contradiction in terms and thus a fallacy.

Certainly we could pursue an *Indeterminate Philosophy*[2] that there might be a further divine dimension to us all, but if there is such a dimension, it too must be defined and driven by the same simple dynamics of pre-defining "want" and turning it into "will". To assume we are influenced by such a dimension would be to assume our physical bodies are puppets. That is to say, if our Free Will is deferred to deities, handed over to divine fate, then "we" would effectively be that divinity, or at least an integral part of it. By deferring our will to a puppet master, nothing has fundamentally changed -- the original questions still exist, but they just apply to that part of us which is the puppet master instead. In other words, things just got a whole lot more complicated for no good reason. The non-theist rightly concludes that such an abdication to divine influence is unnecessary as it changes nothing and it is unjustified as it is without evidence. Progress in understanding is surely best served by simplification, not complication.[3]

Here we conclude then that Free Will is not so much an illusion as a misleading inference to some mythical Will-Gap. This is the presumption that the flow of cause and effect must somehow be interrupted in order for us to inject our desires and virtues when we seem to be overlooking the fact that desires and virtues are already within us. In reality, the brain simply weighs up desires and virtues in the course of

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[1] http://en.wikipedia.org/w/index.php?title=Fallacy&oldid=225805758 -- "A fallacy is a component of an argument which, being demonstrably flawed in its logic or form, renders the argument invalid in whole"

[2] http://en.wikipedia.org/w/index.php?title=Indeterminism&oldid=199115759

[3] "Everything must be made as simple as possible. But not simpler. " -- Albert Einstein. Also, "Any fool can make something complicated. It takes a genius to make it simple." -- Woody Guthrie

normal processing. The Illusion of Free Will is therefore not so much an illusion of anything as more a fabrication of language that casts doubt on every day ordinary cause and effect. The illusion, where there is one, is that should Free-Will be taken too literally without examining it for fallacy, then we manufacture a dichotomy and conjure up ethereal and incorporeal elements of our self to resolve it.

For those of us with Creationist or Spiritualist sentiments, it may be seen that we are now really piling on the pressure. However, it is important to note just how strong the argument for rationalising our existence is. It is from this study of the way our brains work, and how we confuse the way we use language, that we can start to see how readily the idea that there is a metaphysical element to life can be picked apart.

5.1.5 Inner Self Laid Bare

Now we have credible explanations for free-will, we know there is still the feeling of free-will and the feeling of observation, so let's take a general look summarising what this self-awareness is all about.

In this non-theist wisdom, the synopsis is that this mystical Observer is merely the interaction of memory, character and mind. The mind in effect views itself. A succession of thoughts, images and equations are formed and refined as the view and review process is perpetually continued. The Observer is a sensation along the route, between conclusion and review. The brain may even necessarily have a process by which it must pause and consolidate, and it is this that can be sensed as the internal Observer, making its higher, overriding, moral, ethical, principled conclusions, and feeding them back as additional stimulus into the thought process.

This is the narcissistic inner self that we hold to be the true "self" within us, from which stems our character and personality, and our ethics and principles. This Observer[1], whether it be a portion of the brain, a function of brain activity, a byproduct of brain activity, just the overall sensation of the brain at work, or other, is the part of us that we readily perceive to be us and the part of us that is paused or becomes absent when we sleep or lose consciousness. Thus the apparent existence of the inner self, that innermost part of the psyche, has a straightforward explanation along the lines summarised above -- it is the brain consolidating and reviewing.

If we look further at this consolidation and review process, we find yet more in favour of this synopsis. For example, it would seem reasonable to assume that all incoming stimulus washes across almost all of our brain. In this way, all input and all sensations sweeps across the brain and thus can be reviewed by all our memories and exposed to all our processes thus allowing us such a complex, rapid and wide range of responses. This also explains why we have difficulty with basic numeracy by comparison to a calculator -- our brain accesses information a little like Google[2] accesses Web data, and of course one wouldn't turn to Google to answer basic maths questions either (notwithstanding that Google has a separate calculator function). Concentration involves the conclusion of one sweep which is then regenerated into a new artificial stimulus which again sweeps the brain, and so on. This being so, there is unlikely to be any particular centre of activity, and the inner self is only apparent when we think about it.

In another example of this consolidation and review process, we can explain Pain in a way that supports this synopsis as well. When we are in pain, especially extreme pain, our inner Observer is unable to function properly and is swamped by instinctive, uncontrollable concern for our welfare. Pain can be explained therefore as a seemingly personal experience because its objective is to deter higher brain function in favour of survival instinct, leaving us with no option but to commit to direct action for self-preservation if we can. For example, this might cause us to scream in a way that goes against all our social precepts, in a way that would normally cause us excruciating embarrassment -- but the primordial instinct is simply taking over, ensuring our survival.

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[1] See also 5.1.4.1 "The Spectator Illusion"

[2] See "Bibliography & Media References"

5.2 Debunking Feelings

As earlier[1], we are going to build on the preceding debunking argument being as honest and ruthless as possible, to hone and expose flaws in all the preceding arguments for the importance of feeling.

The conventional non-theist wisdom for "feeling", for being the ultimate recipient of experience when one is conscious (a facility that is simply nonfunctional when we are unconscious) is that due to evolution, whether we like it or not, whether it was phenomenal or easily explainable, we exist. We exist individually rather than a whole joint super organism because we evolved that way, because survival of the fittest determined it. The "desire to survive" evolved simply because any genetic propensity to "want to survive" (or to be selfish) would have given the owners of such a gene an immediate and obvious advantage over any cell organism that didn't care.

For "feeling" to have any relevance to the individual, there must be ownership of the feeling by that individual. Individuality is important for our survival as a species and individuality is granted by the segregated ownership of feelings. Ownership is further enhanced by the uniqueness of the gene set that belongs exclusively to each individual self. In short, "individuals exist" and they have feelings. You, as an individual, own your own unique feelings precisely "because you exist".

There is a propensity to look at this conundrum from the reverse perspective and ask how it is possible for chance to make me like me. This is like throwing a deck of cards on a table and looking at the resulting unique lay of the cards and saying "wow, how did they ever end up like that?". Of course we could throw the cards millions of times and marvel at the chance formations, but the important thing to note is that some kind of chance formation has to form every time the cards are thrown, and "you" just happened to be that chance formation, just because the cards were thrown, or just "because you exist".

To say that you find it obscure that you should be the owner of these feelings because you find it highly improbable that you joined this body rather than the body of a mayfly or tree or any other far more likely form, is to rob the possibility of each human form having such a self. Each human-being must have a self simply because it exists. To say it's improbable that you had become one of them is to try and say it is improbable that any human beings should feel to be alive. You didn't join this body, this body created you (or at least the "experiencer" or "feeling register" that you seek to define).

By way of analogy, let's consider a mountain as a self-contained entity, given an artificial life by computer systems that we can imagine were programmed to give it a degree of self-awareness and self protection. A mountain may seem an unlikely subject for such an analogy, but it is ideal to emphasise the nature of how a chance arrangement of matter might come together as a self contained entity. We might say that chance, granite, lava, humus, trees, rivers and gravity all came together to make a mountain and while ever the mountain is broadly one coherent object, then it is a mountain.

If somebody digs a hole in the mountain, the hole belongs to the mountain. If the hole is too big, the mountain is in danger of collapse. If the mountain had intelligence (by way of the aforementioned computer systems), and was thus able to understand such a predicament and even predict it, and if it were able to mount a successful defence based on detailed sensations and calculations that combined memories and actions, then the occurrence of a hole appearing in the side of it would amount to a sensation of pain upon which the mountain was forced to act.

The "feeling" of a hole in the side of the mountain would be registered on the computers that maintained the mountain as computations, dataflow and memories stored in computer chips as noughts and ones. These computations and stored states are meaningless in themselves but they are given meaning if they can result in actions to protect itself against such a hole.

If the mountain's cameras detected that the cause was due to the activity of rabbits, it might not labour hard to consider and judge the options. If the mountain's cameras detected a stream of bulldozers on an illegitimate cause, and if it felt its only chance of survival was to act in self-defence perhaps through causing a landslide, then it would be reasonable to imagine that its computers would labour hard to consider and judge the options, especially if such an act were to mean accepting some self damage. Even now, processor chips heat up when they have to do more work which often leads to fans having to speed up to dissipate the heat. And so the hard work of judging with care for itself, would be quite real to it. Of course such an analogy may unwittingly fall into the hands of the creationists when we conclude that the computers in the synopsis had to be manmade (meaning there was the interaction of an external creator). However, what if the computers were wet logic evolved by nature? Perhaps these are ancient tribesmen seeking to protect their environment, their habitat and their territory? Then it is easy to see where the feelings are registered. Then the mountain is part of a Collective Consciousness[1]. The unthinking part of the mountain is an important part of the tribe's territory and survival mechanism, so although not directly connected to the tribesmen's nervous systems, it is still part of them.

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[1] See also 5.1 "Conventional Wisdom For Consciousness"

That brings us to another point. From here we can see cultures, habitats and then the world itself having a collective consciousness, especially evident in terms of environmental awareness. We have thus consciousness within consciousness. The earth, our habitat, our territory, is essential for our survival. It is a part of us as much as we are a part of it. We care for it and become quite emotionally attached to it and to each other.[2] Within our world, we have national identities that we explore through sport[3] and sadly war. We even historically identify with different national characteristics. On top of that we have religious identities[4] and then finally we have the world itself acting as one against global warming for example. Carl Jung referred to this as the Collective Unconsciousness[5].

At the extreme, we perhaps unwittingly join hands with alien consciousness when we worry about our universe and even start to care for it (for example our concern about space junk) giving rise to a very logical universal consciousness. And so we should have no problem in understanding that consciousness simply exists -- it is everywhere.

Furthermore, instead of looking out of ourselves for larger manifestations of collective consciousness, we can also look at the smaller components of consciousness within ourselves. If we examine this, we find we could be described as collections of lesser consciousnesses. We find something called a cerebellum regulating our breathing and other bodily functions even when our greater cerebral consciousness is asleep or unconscious. Why should we not consider that this has its own consciousness, albeit much less significant than our central consciousness? Then we have our stomach and gut which expands and contracts rhythmically and entirely independently. Some might argue that our infants, before acquiring their own consciousness, are effectively an extension of our own bodies, a part of our own consciousness. In some psychological conditions such as multiple personality disorders, parts of our large cerebrums may not be completely assimilated into the whole consciousness and parts may be attempting to survive on their own, autonomously. This might even be said of healthy individuals who wrestle with balancing responsibilities and unhealthy desires such as sexual temptation. The mind might unwittingly only be one consciousness when it is working in harmony and there may be no particular demarcation line when it comes to defining an individual consciousness within the human skull at all.

The defence of quintessence was that we each have consciousness thrust upon us autonomously and individually, but this passage demands that we ask the question -- are we so individual and autonomous as we like to think? When we go about our daily lives, we walk past people on the street barely acknowledging them, just like I barely acknowledge the function of my hands as they type. However, if one of these people we walked past has an accident, they are compelled to cry out in pain and I experience a compulsion to help as though I felt some of the pain myself. Likewise, if my hand is injured, I am compelled to act. Even so, if the injury is minor, I might ignore it. This communal conscious connection is far more evident when it comes to the connection between family members, especially between parents and infants. To a lesser extent, we feel compelled to act to protect animals and the environment.

Life has certainly evolved to segregate itself, to group itself, just like computer operating systems have evolved separate tasks that are largely autonomous. We group ourselves by location, surname, gender, age, class, skills, unions, clubs.. the list is almost endless.

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[1] http://en.wikipedia.org/w/index.php?title=Collective_consciousness&oldid=228496155

[2] see also Mass Hysteria: http://en.wikipedia.org/w/index.php?title=Mass_hysteria&oldid=228640654

[3] http://en.wikipedia.org/w/index.php?title=Collective_effervescence&oldid=200035914

[4] http://en.wikipedia.org/w/index.php?title=Collective_effervescence&oldid=200035914#CE_in_religion

[5] http://en.wikipedia.org/w/index.php?title=Collective_unconscious&oldid=229430473

If it helps people to come to terms with their individuality, it might be seen that we are each individually a slice of consciousness.

As for criticisms of "dry" 3rd person analysis, any academic description of consciousness is going to sound impersonal and lead individuals to demand recognition that they each have (or are capable of having) their own feelings, especially those of pain that they cannot escape. Whilst there is a compelling attraction to think of oneself as an individual, this can also simply be seen as stimuli focus or even "selfishness" in a non-derogatory sense. A defocused stimuli might be a natural disaster that would draw in the attention of an entire nation, whilst a narrowing stimuli focus would be an accident in a street that would draw in the attention of passers-by and emergency services, and then there is the more extreme narrowing of stimuli focus on an individual's pain.

Thus, consciousness is not an individual experience. This explanation debunks consciousness examined as an individual plight. If we now concentrate on the feeling register, the experiencer within, the words "feeling register", first encountered in the much earlier passage 1.4 "Source Of The Experiencer", are quite significant as the word "register" is used to describe simple types of temporary memory in computers. This sensation is merely the conversion of experience to memory, a process that is either functioning or not depending on being awake or asleep.

When analysing that sensation, we are back to the argument within this chapter in the earlier passage 5.1.4.1 "The Spectator Illusion". That is to say, if we choose to observe a sensation, and if we then determine the observation to be a further feeling that we can recursively observe, then we are entering back into the realms of cascading repetition of introspection (feeling feelings, sensing sensations).

If it is still difficult to imagine that anything that thinks to a certain level can harbour quintessence, imagine that there were no humans or animals in the universe -- only computers. If these computers are indeed charged with the responsibility for their own survival, and if those computers were able to observe and understand the universe, were capable of introspection and self analysis, then does it seem more "right" to imagine them possessing the same level of "feeling", of quintessence, as we do? Once such mechanisms become self determining and entirely responsible for themselves, they in effect become "free spirits" and we should be able to agree that their consciousness would be no different to ours.

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And that, my dear reader, as we close this chapter, is how easy it is for conventional non-theist wisdom to rationalise away "you".

The counterargument for this particular passage begins in earnest in the later passage 6.1.2 "Dead Puppets" and a riposte to the *lay of the cards* supposition is given in the passage 7.4 "The Problem of Unpredictable Emergence". Of course the rest of *Awoken Evolution* picks over the flaws in such rationalisation so that you can be assured "you" still exist...

6 Rebuttal

So now we have defied quintessence with some uncompromising non-theist wisdom, and attempted to debunk the phenomena that gave it credibility, we can now proceed with a fresh authority to examine what we have left and what we can rescue from the ashes.

As uncomfortable as the prior crawl through the valley of cold logic may have been for someone seeking proof that creationism is not an unfounded belief, it is absolutely necessary that we explore all sides of the argument, because to ignore the obvious integrity of the Darwinian argument, and the case for evolved consciousness, would be to invite the criticism of blind faith.

Mounting a rebuttal can be very difficult because the foregoing debunking arguments were indeed logical. As we discussed at the end of the passage 4.2.4 "Is this really getting us anywhere?", it is important to understand what is arguable and unknowable, and it is equally important to understand what is known, knowable and unlikely to be arguable.

As beguiling as the prior arguments on the origins of consciousness were, and regardless of the closing arguments about feelings which will be rebutted, it is indeed all down to a feeling...

6.1 Self-Denial

Before exploring the claim that it's all in a feeling, let's preface our rebuttal emphasising just what is at stake..

Terry Pratchett wrote an article for the Daily Mail on June 26, 2008[1]. In it, he humourously satirises exaggerated reports that he had "found God" based on a moment of epiphany he once discussed publicly.

It was a sad article -- an article from a man having been diagnosed with the early stages of Alzheimer's coming to terms with his mortality and commenting generally that he finds religion an untenable crutch. Unfortunately, it appears he was unable to find any other crutch except to mention a feeling of peace and oneness with the universe, a moment he described as his epiphany. Pratchett would appear to be in good company if he too is unable to find spiritual guidance from religion because it's logic has been so broadly discredited by scientists concluding that the waking phenomenon occurring within each one of us is little more than a figment of our imagination.

Pratchett's story about the two semi-detached houses in East London being devastated by German bombs (asking whether or not the survivors should thank God for their survival or be angry with God for the demise of loved ones) is another variation on that old chestnut about soldiers opposite each other in the trenches, each praying to the same God for salvation.

This is typical of religious discrediting that abounds everywhere. Based on non-theistic reasoning, we are told religion is illogical. Although it is beyond the scope of Awoken Evolution to give counterargument (perhaps based on the oft expounded battle of good and evil), what is concerning is that all spiritual guidance follows such discrediting into the abyss. Non-theistic reasoning invariably adds that our ability to experience, as in quintessential conscious experience, is just a clever little trick that evolution has pulled on us to make us more appealing to others. It is not something that needs counselling in the event that it is about to be parted from its mortal constraints, it is an imagined quality that has emerged to help the survival of our DNA.

Is this not literally "self-denial"?

Some academics may tell Mr Pratchett that he is just highly refined dust that has assumed self awareness knowing suffering and joy. But to many inquisitive individuals, that just doesn't make sense. If his matter can do that, then any matter can -- then why is he, like all of us ultimately, stuck in any particular blob of dying matter called a body? Perhaps, given his epiphany, he intuitively senses that his body isn't so relevant after all.

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[1] http://www.dailymail.co.uk/textbased/femail/article-1028222/I-create-gods-time--I-think-exist.html, 2008/06/26

So is Pratchett, like so many others, caught up in the flood of unhelpful logic sweeping away spiritual guidance?

6.1.1 It's All in a Feeling

It's undoubtedly true that we make decisions built on virtues that we inherited, and it may be true that the inner spectator is at least in part a cascading repetition of introspection[1]. But it is the feeling of joy and pain as we observe, the feeling of tension as we make those difficult decisions, the feeling of pleasure as we fall into desirable decisions, indeed, it is simply the feeling that marks the phenomenon of quintessence.

How can the act of thinking lead to feelings? Yes, the kind of thinking that produces emotions, as opposed to thinking mundane thoughts, could indeed lead to feelings. Emotions can in turn be chemical imbalances such as hormones. Perhaps these hormones are what we "feel" but where do the feelings, chemicals or hormones go to?[2]

If the emotional chemical produced during feeling pain were acid, there is still no logical way of exposing how the resulting cell damage can lead to "feeling". Cell damage to organs that have nerves will of course produce an increase in electrical activity that we call pain, but can feeling arise from electrical activity? In that case, our electricity supply grid would be registering a lot of pain (although "on what" might be a very good question). Electrical activity and chemical imbalances are registered as feelings on something, somehow, somewhere in the brain. More perplexingly, this "feeling register" (or experiencer as we refer to it elsewhere) can be switched on and off. When we are unconscious, whether that be simply asleep or anaesthetised, electrical activity and emotional/chemical imbalances can continue, but the resulting feelings cease to register, those feelings cease to exist.

For example, consider alcohol as a more measurable thus empirically observable, albeit artificial, chemical imbalance in the brain. It creates feelings of euphoria, synthetic happiness, and even confidence, all emotional feelings which cease when the subject falls asleep (or slips into stupor if the experiment be carried out too enthusiastically). The *feeling register* no longer experiences the sensation of euphoria despite the continued presence of the alcohol that produced the feelings. The feeling register must be awoken before any feeling is experienced.

Feelings are personal. Although we predominantly act as individuals for ourselves, we also act as a community. When one of us falls, the rest of us may experience anxiety, loss and grief, but we don't directly experience that other persons pain. The mere fact that such feelings are isolated from everyone else is part of the proof. If we return to the notebook scenario in the prior passage 5.1.4.2 "Thinking Exposed To Empiricism", we note that using a notepad can help expose thinking and thus feelings, and therefore create secondary similar feelings in other individuals through empathy etc, but that does not directly relay feelings, especially vivid feelings such as pain. I can "see" the layers of introspection at work when I look at myself trying to solve a problem with the aid of a notepad, building results and observing them for reanalysis, etc. It's there for me to see and it's there for you to see. If it is you with the notepad, I can see your chain of introspection but I cannot feel what you're feeling other than by guessing at it. When I am using the notepad to work out my thoughts or my difficult decision, I also feel the emotions that go with it, and I cannot connect that to anyone else.

When examined in other people, emotions such as pain can be explained as evolved mechanisms by which we find ourselves uncontrollably seeking assistance, but for individuals, for me, emotions are very real feelings that define and distort my reality, feelings that are "felt" by "me". They are felt whether I am alone in a desert, or sharing them with a group.

One could even go further and say that feelings *Are* "me". If someone wanted to induce pleasant feelings in me such as with a massage, they would do it when I was conscious or awake. Conversely, if someone sadistically wanted to inflict pain on me, there wouldn't be much point in doing it when I was unconscious.

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[1] See also 5.1.4.1 "The Spectator Illusion"

[2] Considered in depth in the later passage 6.1.1.1 "Conduit to where?"

Whatever it is in me that feelings are registered on, that is the part of me that is "me"! One individual can caress, massage, or even strike another individual anytime, but if the recipient individual is no longer conscious, then the nerves may be stimulated, but the individual is unable to experience the stimulus, so the exercise of stimulation was pointless.

In a person with a mild state of unconsciousness such as stupor, the concept becomes even more intriguing because clearly the brain is working to the extent that it can respond to a "strong stimulus such as sharp pain".[1] This indicates that there is some processing of lesser stimuli, yet despite being processed to ascertain the level of that stimuli, the lesser stimuli is not experienced.

When we register feelings and sensations, this becomes an awareness going beyond that which we would normally consider a machine to be capable of, whether that machine be semiconductor or biological.

Is this then quintessential conscious awareness?

6.1.1.1 Conduit to where?

In the last passage, we variously asked where feelings go to. Not only must we ask where do my sensations get registered, we must ask "Why is my reality connected to this human being?"

Is my body a conduit between external reality and my ultimate reality? The answer must be yes (notwithstanding that your body is also a means by which you interact with and modify external reality). My body and my sensations deliver a given perspective upon reality to my ultimate reality. Regardless of the validity of those sensations, once unambiguous sensations such as pleasure and pain reach into my ultimate reality, they become ultimate truth and pure knowledge to me[2].

Is my brain the end destination for my feelings and sensations, or a part of that conduit? The answer is not obvious. It may not be the end destination, because the brain manufactures virtual realities all the time, considering scenarios and imagining, anticipating and pre-empting. In that case, it is performing computational functions to generate sensations rather than being the recipient of sensations. Indeed, the only reason for considering that the brain might be a part of the delivery mechanism from external reality to our ultimate reality, is because we generally assume the centre of self is buried somewhere in the brain.

However, might those sensations simply be traversing the brain in order that the brain might analyse them, record them, and act accordingly? Is true quintessential conscious awareness part of that mechanism? If we recall earlier passages such as 1.6.1.1 "The Mechanics of the Experience-Moment", we established that the brain doesn't need to be doing much to experience. The ultimate pleasure for many would have to be the apex of orgasm. The brain doesn't need to analyse and indeed the brain seems to be rendered unable to analyse anything at that particular moment in time. Similarly, migraine pain, phantom limb pain and other similar pains often occur regardless of what we are thinking. This raises the possibility that the ultimate reality of such pleasure and pain is not centred in the brain at all.

Why is our ultimate reality inside this being we find ourselves in? Or is it even bound inside this human being? This is an interesting question that we will address further in 7.4 "The Problem of Unpredictable Emergence" but for now, let's nail any last doubt that having "feelings" is something that can be rationalised away easily...

6.1.1.2 Levitating Bootstraps

Can we pull ourselves up by our bootstraps and levitate? Of course not. We can exert an awful lot of pressure, but it is pointless. If a second person lifts me up, and then a third person lifts that second person up, can I then hold up the third person and all three of us start levitating? Absurd!

And yet, this is what it is to assert that a "cascading repetition of introspection" is responsible for quintessential conscious awareness as we attempted to do in the preceding passage 5.1.4.1 "The

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[1] http://en.wikipedia.org/w/index.php?title=Traumatic_brain_injury&oldid=229679495#Effects_on_consciousness

[2] http://en.wikipedia.org/w/index.php?title=Epistemology&oldid=361950867

Spectator Illusion". But that's not just a weak scenario that we invented, even the great philosopher John Locke attempted to associate Self-Awareness with the repeated self-identification of oneself (conceptually attributed to John Locke as referenced in 5.1.4.1 "The Spectator Illusion").

Curiously, we see a similar faulty logic in financial markets. A speculator will buy an undervalued house to sell for profit because he knows someone will buy for more. The problem comes when another speculator believes the house to still be undervalued and so he buys it. Then an entire chain of speculators can circulate the house amongst themselves, often oblivious to the artificial escalation of value, until it becomes clear that the people the house was originally built for can no longer afford it. Suddenly, no one can further speculate on the house and the housing market collapses.

In all of this, there needs to be an anchoring point or reference point. In the case of the bootstraps, we need to exert pressure with reference to the ground. In the case of financial markets, the monetary value of investments in circulation must always have some relationship to the actual value of the physical assets. In the case of a cascading repetition of introspection, there must be a reference point against which feelings and sensations are registered against.

To try and explain quintessential conscious awareness as a "cascading repetition of introspection" is a little like trying to apply Zeno's paradox of halves again[1] in an attempt to explain the feeling of observing one's self, ie: the feeling of awareness. "I know I am can observe my feelings because I observe myself observing. I also know I am observing myself observing because I am observing myself observing myself observing" -- and so on. In some ways, this is perfectly true. If you've ever tried to analyse self-awareness, this is what happens, and this is perhaps what John Locke meant. But it is a deeply unhelpful diversion from the truth because it has nothing to do with a genuine awareness of observation, and simply pushes the underlying question of explaining awareness further and further away. The genuine awareness of observation is present in each of these steps and left unexplained.

So we are genuinely aware of experiencing feelings and sensations, including the feeling of being self-aware. Just as we know Zeno's paradox of halves is absurd because we have no trouble reaching our destination, we know that there is and always will be a point where something is experienced. We cannot defer that point of experience to somewhere else and hope to therefore avoid it.

This point where we are genuinely aware of feelings and sensations cannot be deferred by layering (to the feeling of feeling of feelings for example). This is graphically illustrated by the sensation of pain as we will show over the coming passages...

6.1.2 Dead Puppets

The preceding chapter 5 "Debunking Quintessence" was useful in keeping the debate in perspective. If nothing else, it quite fully provides an alternative reasoning for non-metaphysical consciousness. The final debunking passage, 5.2 "Debunking Feelings", may even give us cause to rethink our isolation and realise individual consciousness is not as individual as we might like to think.

It amounts to telling myself that I (the surrogate "I" applied to everyone introspectively) am mechanically explainable, just one of many consciousnesses, a part of a greater consciousness, the sum consciousness of various conscious parts. Whilst that is fine, and that is what I am in essence, I am telling myself something that makes "myself vanish", trivialises myself as an object. Even that is fine, I don't desire self recognition, I only desire truth. However, there is an expression of life within me that simply rises above this logic. Perhaps I'm just part of the consciousness of the universe without even realising it -- but what part of me isn't realising it? Perhaps the sensation of self-awareness, of being the Spectator of one's self, of observing one's self gives one the illusion of self -- even deludes us into conjuring up "self" and "free will"... but deludes what?

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[1] See also Zeno's Paradox of Halves in 1.6.1.1 "The Mechanics of the Experience-Moment"

It would seem that the more we try to analyse it, the more we prove that the mechanism of consciousness had can work without invoking deities. Thus we feel able to disprove the existence of the ghost in the machine[1]. The non-theist would consider this to be a victory for their version of common sense, but then doesn't that disprove the very essence of ourselves?

There are a number of symptoms that we each feel within ourselves, symptoms which cannot be exhibited directly to others, that strongly contradict any notion that we are automated by predetermined virtues and environmental factors. These symptoms can be summarised as follows...

- Registration: The feelings that come to me do register within me, in a way that surpasses dataflow and surpasses memory creation.
- Ownership: These feelings belong to me. Strong feelings such as a pain are not an illusion. Such feeling are mine and define me as an entity that is capable of owning feelings.
- Responsibility: Whilst "free will" may be a somewhat fallacious concept[2], I cannot accept that I am entirely at the mercy of virtues I never had a hand in moulding, that "I" have never generated any change in virtue or otherwise swayed the course of events to change the ultimate outcome.
- Awareness: I am aware of my own existence, myself. I look out from what I am and I can see, evaluate, sensate -- in a way that is ultimately "real to me".
- Wakefulness: Awareness is only possible when I am awake. When I am asleep, my flesh is only less active but it is otherwise unchanged. Thus I find it difficult to accept that this awareness is integral with my flesh.
- Realisation: We take for granted what it means to "realise" something. It means to "make real", to convert observation into knowledge in a way which makes reality.

Of course we've looked at all of these symptoms already, sometimes in great depth. And of course, the problem persists that for science there is nothing particularly compelling in terms of evidence from these symptoms. There is always an alternative theory to the detriment of any metaphysical explanation, and there is no way of disproving those theories. But do those theories really match the symptoms?

For example, taking the point above about sleep separating me from my flesh, various scientific explanations are put for such phenomena, such as the explanation for sleep amnesia being that the small part of my brain that gives me consciousness is not functioning. Another is that this is simply because my brain deliberately forgets such activities as is necessary to ensure I do not confuse dream memories with the memories of the physical realm. However, not only are these unprovable explanations, this kind of explanation again removes me from my own reality.

Furthermore, consider that I can be asleep, ie: away from my body, even when my brain is fully functional as it is during REM sleep. I may be awoken from sleep and told that I have been dreaming only to find that I have no recollection of it at all. This indicates that even when my brain is near fully active, "I" am not there unless I am awake and conscious. Sleepwalking is an even more vivid example of the brain functioning autonomously without the intervention of myself.

Theories about sleep amnesia, sensation and awareness tend to put my quintessence into the wrong perspective, putting it into the objective *third person perspective*[3] at which time the veracity of my quintessence simply vanishes. It is not that I seek some narcissistic self recognition, it is simply that my consciousness can only be examined internally, and the theories are given do not satisfy the questions raised by the symptoms.

All this objective analysis achieves is to relegate my consciousness to some kind of object that synthesises experience, explaining it as a cascade of mirrored reflections that simply pushes the ultimate explanation I seek to some faraway place that can be ignored, just as we noted in the prior passage 6.1.1.2 "Levitating Bootstraps". It amounts to telling me that certain sensations I experience are illusions.

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[1] http://en.wikipedia.org/w/index.php?title=Ghost_in_the_machine&oldid=227626774 -- philosopher Gilbert Ryle's derogatory description for Descartes' mind-body dualism

[2] See 5.1.4.4 "Determinism, Free Will and more Wordplay"

[3] See earlier passage 1.5, "Four Questions", paragraph 32

The non-theist cannot simply explain this by saying one's brain is deluding one's own brain into "feeling" that the unfolding sequence of synaptic events, as perhaps occurs in the analysis of oneself, because this merely pushes away the explanation of self-delusion into the realm of unexplained "feeling" which we saw was pushed away into the cascading repetition of introspection of feeling feelings, sensing sensations. This selective removal and distancing of difficult parameters within a problem is a kind of *logical gerrymandering*[1].

Awoken Evolution sets out the questions[2] that logically lead us to have doubts that scientific theory really does provide adequate answers. Further, there are the symptoms of unshakable feelings as we have touched on above that compound this doubt.

Continuing this line of thought from a personal and even an emotive perspective, I note that there is a kind of feeling of disbelief when presented with Darwinism and big bang fundamentalism. It's as if I am being hoodwinked by a doorstep salesmen trying to ram simplistic rationalisation "down my throat", trying to proposition me with a belief set that is worse than the doubts I had because it does nothing to explain my own inner quintessence whatsoever. Whenever I begin to accept a Darwinistic reality, this feeling overwhelms me like a shudder. It's as if there is a common sense aspect of tacit knowledge that is telling me that at best a very incomplete proposition is being put to me.

"My doubts" indicate that my inner reality, the only reality that I know to exist with absolute certainty, is questioning the validity of the outer reality proposed to me. Paradoxically, "My doubts" confirm to me that the ultimate reality is still within me because that is the seat from which I make my observations and ultimately my judgements about the outer reality proposed to me.

It is like trying to expose the molten core of a planet to empirical observation. As soon as we take it out into an environment where we can study it, the lava hardens and changes state. However, we individuals are fortunate enough to be "in" this metaphoric molten core, in a location that offers each of us our own grandstand viewpoint of it, but because what we see cannot be exposed, it is not considered empirical evidence and it's not given anywhere near the appropriate level of scientific recognition.

If we were all such proverbial planets, we might look at each other and consider that all the evidence indicates we are cold balls in the sky, but if I am inside this planet myself unable to escape it, and I see instead the life force and energy of my molten core, then I am compelled to tell the truth about what I see.

All these grand scientific explanations as we encountered in the foregoing debunking passages can surely only apply to *dead puppets* dancing unswervingly to the tune of virtues supposedly set in place at the dawn of genetic structuring. They cannot apply to me because I am here, I know I am alive, I alone hold the keys to the certainty of my own existence. I am alive and these scientific theories apply to something that is not. They seem to set out to explain how something that is not alive can appear to be alive, and they do a very good job of doing so, but in doing so they eschew quintessence, preferring a two-dimensional pressed flower to the real rose within. The "death warmed up" style of empirically based explanation given by evolutionists and the academic/scientific community is to me "unreal".

What happens to feelings that are never witnessed such as the feelings people surely feel if they are unfortunate enough to die alone? Not only were such thoughts and feelings unacknowledged by others, after the passing of the individual concerned, they become unrequited even by that person's own consciousness. Were they less significant than a record player with the volume turned down? Significant feelings and sensations such as anguish and pain cannot be so easily reasoned way, except perhaps by a pathological killer. To let quintessential experience be denigrated to sterile descriptions of cascading introspection would be to conclude that if we ignore a dying person, that person couldn't suffer.

It is unfortunate that the logic for quintessence must rely in any part on an emotive response, but it is perhaps an appropriate reaction when we discover the increasingly obvious logical gerrymandering of cascading repetition of introspection theories given by the conventional non-theist wisdom preceding. Given that it is apparently impossible to expose consciousness to empirical study, that theory cannot be falsified, and thus neither can it be subjected to true scientific scrutiny.

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[1] http://en.wikipedia.org/w/index.php?title=Gerrymandering&oldid=229888848 - "a form of redistricting in which... constituency boundaries are manipulated for electoral advantage"

[2] See also 1.5 "Four Questions"

So, is it that all we can offer from one person to another in support of quintessence is a hat full of doubts, feelings, common sense and emotive responses? Whilst that might appear to be all that we can offer in evidence to others, it's not even a fraction of what we have within ourselves. In support of quintessence, we each have the unequivocal knowledge of those doubts, feelings, common sense and emotive responses, and a lot of other things besides. This is our inner reality, our quintessence. To dispense with that, to strip it away, would be to assume we sleep walk through life and we know that we don't.

How can we irrefutably expose that inner unequivocal knowledge in such a way that we can demand an explanation for it? This is where we must soon return to free-will[1] but first, let's be sure we understand what that unequivocal knowledge of pain and thus quintessential conscious awareness means.

6.1.2.1 Ultimate Knowledge of the Inner Experiencer

It is important to define the spark of consciousness as something tangible before we can assert that it must be something that should be logically explainable, and it is only when we find that it is not logically explainable that we can realise it must be something special.

But how tangible is it? We know that humans are conscious, sentient and aware. And yet what do we mean by "we know"? In this case we mean Inferential Knowledge[2] because it is based on reasoning.[3] We reason that there are sufficient similarities between ourselves and others that these things are not unique to ourselves. However, there is nothing tangible here for us as yet. We don't have to prove to ourselves that we are conscious, sentient and aware, and yet none of us can prove it to anyone else.

Let's be clear about that. We cannot prove it to anyone else, and therefore it is not evidence-based knowledge and it must always stay as a lesser inferential knowledge. Why is this a problem? Surely we can all accept that others are conscious and it is not necessary to have more proof? It is a problem because consciousness, sentience and awareness otherwise tend to be underestimated. When it is underestimated, it invites trivialisation, for example by theories about how it might simply be a cascading repetition of introspection. If we aspire to establish that there is something special about consciousness, that it is to register and own feelings, to know of responsibility and awareness in a way which is beyond that which cellular machinery is logically capable of, then we must at least be capable of having a strong knowledge of it that we can share.

If it is something which is unprovable within others, perhaps we should not be looking for something which is provable or evidence-based, but we should seek some tangible, irrefutable knowledge[4] of The Experiencer that we can all agree upon.

Let's look again at Pain. We could look at other intense experiences, ecstasy perhaps, but there is no experience that is quite as vivid and easily remembered as pain. Surely there is no more irrefutable knowledge than that of knowing when we're experiencing severe pain. Is pain the ultimate revelation of The Experiencer within? Is your inner quintessence, upon which this experience is registered, your ultimate reality? Perhaps it is not so much simply just the pain, nor even just the experience of pain, but it is the *Knowledge Of The Experience*, in this example, the knowledge of the experience of pain.

We don't want a logical explanation of the reason for pain -- the usefulness of pain in self-preservation and the survival of the fittest is completely accepted. What we must demand is an explanation of the knowledge of pain. This isn't knowledge from memory, this is the immediate knowledge of pain.

As something of an aside, it is interesting to note that this kind of knowledge is difficult to pigeonhole in epistemology, the branch of philosophy that studies knowledge. Is it "a priori" knowledge of an experience? After all, to know of pain, we as individuals do not need to have evidence, nor do we need to do any science. Indeed, we don't even need to apply logic to have knowledge of pain. However, although the knowledge of intense sensations such as pain may be tangible and irrefutable, technically speaking it is not "a priori" because it is something you must experience to know of and technically that makes it "a posteriori" knowledge because it is dependent on experience. But then, if pain is so tied up with experience, perhaps it comes under empiricism. And so it is ironic that pain is probably the most empirical evidence we can have of anything individually, and yet it cannot contribute as empirical evidence towards the properties of consciousness when observed in other people. Perhaps we should dispense with such debate and simply view such intense sensations as an *Irrefutable Knowledge*. So here we have irrefutable knowledge of a sensation which is known to all of us. If we are merely machines, whether cellular organisms or otherwise, then pain should merely be a signal that we have evolved reactions to, and indeed that is so, except that vitally, pain is also something which burns into the centre of our conscious beings, defining consciousness as the seat of experience that registers such a sensation. Breaking a leg wouldn't generate enough electrical nerve energy to ignite the smallest of lightbulbs, and yet the insidious message those nerves carry somehow serves to create enormous levels of discomfort. What is it within us that is bound to that ultimate knowledge of such an intense sensation?

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[1] See future passage 6.3.2 "Free Will Revisited"

[2] http://en.wikipedia.org/w/index.php?title=Descriptive_knowledge&oldid=221803267#Types_of_knowledge -- Extract: "Inferential knowledge is based on reasoning from facts or from other inferential knowledge such as a theory. Such knowledge may or may not be verifiable by observation or testing. For example, all knowledge of the atom is inferential knowledge. The distinction between factual knowledge and inferential knowledge has been explored by the discipline of general semantics."

[3] For further references, see also "Philosophy Reference"

[4] See also "Philosophy Reference"

The seat of that knowledge, in this example being the knowledge of pain, but ultimately the seat of any knowledge that requires no memory of former experience for contrast, and no reason, provides us with the best description of quintessence, of that inner experiencer. And the fact that pain is a universal experience we can all identify with makes it the best shared evidence for the validity of quintessence.

And so we come back to the promised conclusion of the earlier passage 3.1.2 "Consciousness Defined" with a refined definition as follows:

The Quintessential Conscious Awareness that embodies the Inner Experiencer can be defined as:

- The seat of knowledge of experience that does not require reason or memory, as with intense sensation such as agony and ecstasy.

Let's look at this in more detail...

6.1.2.2 Pain in Sharp Relief

Continuing on from the definition we just made, it is not just the experience of sensation, but the *knowledge of experience* of sensation. Most importantly, this is a fundamental knowledge that can occur without reference to anything else.

We keep harking back to pain because intense pain and ecstasy are two fundamental sensations that can occur without reference to anything else. However, ecstasy has questionable value as a topic for this analysis -- if one is talking about sex, then it is difficult to imagine such ecstasy without some kind of reference point such as attraction. Moreover, ecstasy is simply a difficult subject to discuss without stumbling across distracting lurid details, so it will be pain that we will focus on.

It should also be noted again that it doesn't matter what the sensation is. Any sensation can be described in this way, but the point is to focus on a sensation, in this case pain, that we cannot deny is more vivid than the logical sum of its parts. Pain is especially useful in our analysis due to the existence of "phantom pain" and any pain that, as a sensation, has no cause and thus no reference point. We will come back to that shortly.

Non-theist proponents of evolution will easily weave a logical fabric about the necessity for pain in survival, and the evolutionary impact of that on the survival of the fittest. For example, pain is a sensation that not only warns someone about potential destruction to oneself, but also is nature's way of ensuring the subject is fearful of toying with destructive forces. It strikes in a primitive way, punitively lingering long after the act that caused it. In this way, it could also be described as a deterrent.

And whilst such proponents would be entirely right, this is again pushing the description into the third person ignoring an entirely independent aspect of the sensation. As we have tried to demonstrate, there is a phenomenal occurrence where the sensation is observed by an inner experiencer. If we introduce the word "knowledge", then we see something much less easily ignored.

Let's restate it slightly differently: Consciousness can be seen as the fundamental knowledge of a sensation acting on a conscious individual. When such sensation occurs without reference to anything else, the knowledge of its existence proves the existence of consciousness as a phenomenon that is above the mere mechanical reaction to it afforded by the actions of matter and physics in the human brain.

Examples are difficult without indulging in distracting imagery, but imagine again the example of a broken bone. It creates a great deal of pain, often in an area where we didn't even know we had nerves. We have all had similar injuries that we can relate to. Indeed, the first time such extensive pain is experienced, we discover a depth of discomfort that we had hitherto no knowledge of. After the injury, the sensation continues with little or no meaning. There may be significant punitive reason for its continuation in evolutionary terms, but to the individual experiencer, there is experience without point, without particular meaning. The sensation simply "is".

A better example is phantom pain. Examples include headache and migraines, unspecific backache, sudden-pain (some theorise as being caused by cosmic particles), phantom limb pain experienced in amputees, and certain types of illness that create pain unrelated to any particular injury or even disease (Eg: Trigeminal Neuralgia.. a.. disorder of the trigeminal nerve that causes episodes of intense pain in the face[1]).

We have the knowledge of sensation without prior experience of it, without apparent reason, and without apparent meaning.

There is nothing special about pain as a sensation, nor is there a morbid reason for the use of it repeatedly in our examples. The reason for harking back to pain in *Awoken Evolution* is that it is the one sensation that cannot be denied as a fundamental experience.

Trigeminal Neuralgia, as introduced above, is a particularly good example. There is essentially nothing wrong with the patient. Others, as external observers, can see no meaning for it, no reason for it, and have no understanding of it. Indeed, there is no proof of it whatsoever and the patient could be mimicking the symptoms (although usually the patient's obvious distress is undeniable). However, for the patient, the sensation is very vivid indeed.

The more interesting aspect of the Trigeminal Neuralgia example is that it goes to prove that pain doesn't require to be understood. There is nothing to be gained by the patient trying to tell himself or herself that the pain has no basis in logic. There is nothing to be gained by the patient trying to tell himself or herself that the pain is just a nerve impulse, an electrical signal so small as to unlikely register on an electricians meter (if we could connect to it). Such utterances will not make the pain go away but will probably make it worse. These things are of course true of any kind of phantom pain including headache, unspecific backache, etc.

> Also of particular interest is migraines triggered by restricted blood flow, flashing lights, sounds or similar events. The brain has no nerve endings within itself so the brain cannot detect painful stimuli and yet it can generate agony for some. Where is this pain generated and where is it registered?
>
> Nerves themselves carry pain as an electrical signal, the signal in itself being so small as to not be destructive, indeed possibly being more of a data signal given recent research into certain frequencies that can cause pain[2]. Thus, it seems reasonable to conclude that the brain generates pain upon receiving this signal and in the case of migraines and other unspecified pains, the brain is erroneously generating the signal, something akin to an unheard tinnitus perhaps.
>
> It would seem great pain can be generated by a few misbehaving neurons based on signals so very small that the source is undetectable. And yet, whatever target that pain registers on, that target finds itself to be immersed in agony. When a person loses consciousness, all the ingredients of the agony may continue to persist without the "inner register" even being aware of it. And yet at times, for example when the patient is anaesthetised, the carriage of great pain signals simply do

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[1] http://en.wikipedia.org/w/index.php?title=Trigeminal_neuralgia&oldid=236159531

[2] http://www.defensetech.org/archives/001652.html and the 'pain ray' http://en.wikipedia.org/w/index.php?title=Active_Denial_System&oldid=292393122

> nothing, ie: they create no damage in themselves, nor do they leave any trace that such signals had existed.
>
> How can a collection of molecules be tormented one moment and yet lie in unaffected tranquillity the next?
>
> What is this target that can experience?

Pain does not require logic to be "known" or memory to be compared to. Pain is not simply a mechanical reaction to neural stimulus, it is a vivid experience known only to the conscious mind. If we had never felt pain before, it is unlikely that somebody else could describe to us what pain was.

If such a Migraine Sufferer or a Trigeminal Neuralgia sufferer were a lone sleeping yachtsman well out to sea, then the sensation would have zero impact empirically on anyone else except for the sufferer, who would be awoken and would have to endure the sensation until it passed.

The whole point of *Awoken Evolution* is to present the advocates of non-theistic realism with an undeniable conundrum, to show there is something inexplicable about oneself existing and having a presence in a defined object, in a human being. We can talk about inner experiencers and sensaters, but it is normally entirely deniable as being simply a byproduct of circulating thought. We labour on "unreasonable pain" as it is possibly the only evidence of interaction with an inner experiencer. The knowledge of its occurrence to the individual, during the passage of time where such a sensation is occurring, is the undeniable aspect of it.

Without invoking some inexplicable metaphysical experiencer as yet, we must imbue physics and matter with the metaphysical properties of being able to understand the difference between good and bad, comfort and pain, even right and wrong. This is explored in much greater depth shortly.[1]

6.1.2.3 Catacombs of Consciousness

In the much earlier passage 1.4 "Source Of The Experiencer", we noted that conscious experience was always accompanied by the creation of memories and thus "experience" might simply be the conversion of sensations to memory.[2] Indeed, in the passage 5.2 "Debunking Feelings", we liberally asserted that this could thus be a simple empirical explanation for consciousness.

Of course this is certainly not the only theory that non-theist science might use to explain neurally bound consciousness, but the fact is that when we are aware of sensations, we are almost always committing them to memory and perceiving the positive or negative value of these sensations by comparing them to earlier memory.

We first examined the reasons quite why experience cannot be readily ascribed to memory creation in the passage 1.6.1.1 "The Mechanics of the Experience-Moment". This was simply because raw sensations such as pain required no particular processing or interpretation to be felt as an experience. However, for those still unconvinced, we now have the further examination of Pain as in the foregoing passage to work with. There are two parts to the rebuttal of any theory that "Experience" is generated at the point of "Memory Creation". First, as we noted above and in the passage 1.6.1.1 "The Mechanics of the Experience-Moment", memory is not necessary to experience pain. In particular, sudden pain and phantom pain can strike without being interpreted by comparison to prior memories as a reference point. Babies feel pain without any prior preconceptions to compare against.[3]

We must differentiate between experience and perception -- the latter being the everyday use of memory to recognise and interpret sensory stimuli based on memory[4]. Memory's primary function is in the mechanical act of perception that is necessary for all animated beings (humans, animals and insects etc) to function. What we are examining in *Awoken Evolution* is beyond the perceptive use of memory.

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[1] See 6.1.2.4 "Driver's Seat"

[2] See earlier passage 1.4, "Source Of The Experiencer", paragraph 7 -- (exactly where first mentioned)

[3] http://en.wikipedia.org/w/index.php?title=Pain_in_babies&oldid=409514135

[4] Perception -- "Psychology - a. Recognition and interpretation of sensory stimuli based chiefly on memory. b. The neurological processes by which such recognition and interpretation are effected." http://www.thefreedictionary.com/Perception -- The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2009. Published by Houghton Mifflin Company. All rights reserved.

The second rebuttal of any theory that "Experience Is Memory Creation" is to try and define the point of memory interaction where Pain (as our best sample stimuli) is occurring or "actioned". Crucially, we must ask where this secondary experience is registered and how this registration materialises pain.

To try and imagine how the registration of memories might result in the conscious awareness of pain or other strong sensations, let's hitch a ride with some "pain stimuli" as it winds through the catacombs of consciousness..

> This ride begins without any particular mystery. An electrical signal warning of some potentially destructive event is generated by pain receptors at nerve ends, and travels through the long and delicate nerve cell until it reaches the brain.
>
> At that point, the brain becomes aware of the stimulus and depending on the level of the stimulus and whatever else might be preoccupying the brain, the stimulus is accepted or ignored.[1]
>
> Assuming the stimulus is accepted as a pain signal, it seems it is at this point that the brain itself generates "pain" or materialises the experience of pain[2]. As we noted prior, the nerve relays a signal which is no more meaningful than the data in a computer network cable. It doesn't carry any energy or destructive force, and yet is obviously capable of carrying information that can be interpreted by the brain as pain.[3]
>
> How that information is disbursed within the brain and materialised as pain is unknown.[4] Beyond the observation of increased blood flow and electrical activity, mankind has no idea as to how a "noxious stimulus" can cause the experience of pain. We do know that such stimuli usually leaves a memory imprint -- this is obvious enough in itself (simply put, because we remember pain) but it also corresponds with the increased activity observed in neuroimaging.[5]
>
> So the ride with our pain sensation now goes potentially thousands of different ways across the neurotransmitters of the brain. We can choose an axon and choose one synapse branched off that axon until we get to one dendrite which eventually leads us into one neuron. Now what? Concentrating on the possibility that sensations are experienced due to memory interaction, at some point this neurotransmission has to change something or terminate somewhere in order to be registered as a memory of a pain.
>
> As we come to the end of our ride, we find ourselves bumping around at atomic level perhaps changing the molecular structure of chemicals within one or more neuron nuclei such that a memory is registered. The precise detail of this doesn't matter at all -- it may be that certain synapses grow and other dendrites wither away, but whatever it is, it has to be small, because memory formation is not normally regarded as something which is visibly detectable. Note that whilst memory starts as electrical activity, there must be a physical change of some kind because memories survive even temporary death such as accidental drowning or heart stop surgery.
>
> As soon as we conclude that some small physical change during memory creation must occur for us to physically know pain without invoking any metaphysical element, then we arrive at some conclusions that are hard to swallow.

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[1] This is mainly in reference to "pain threshold" being altered by shifted concentration but there are also theories about competing transmission cells and inhibitory cells in a subject called "gate control theory" -- http://en.wikipedia.org/w/index.php?title=Pain&oldid=411288752#Gate_control

[2] There are many sources that support this generalisation including: http://en.wikipedia.org/w/index.php?title=Pain&oldid=411288752#Theory_today (See adjacent image titled "Regions of the cerebral cortex associated with pain.").

[3] There are many sources that support this generalisation including: http://www.wellcome.ac.uk/en/pain/microsite/science2.html ("When we stub our toe, it hurts - but only because our brain says so....")

[4] this is a generalisation supported by: http://en.wikipedia.org/w/index.php?title=Brain&oldid=410675184 Eg: "..how individual cells give rise to complex operations is unknown"

[5] Ref same as prior: http://en.wikipedia.org/w/index.php?title=Pain&oldid=411288752#Theory_today

First, it would be necessary to conclude that we could replicate the process and therefore simulate "genuine" pain that would be "genuinely" experienced by something otherwise inanimate, for example in a silicon simulation of the human brain or even a Petrie dish that supported the requisite chemical/physical changes. Secondly, we would have to conclude that somehow our experience of pain exists in these microscopic physical changes. Whilst this might well explain the memory of pain when later recollected, it doesn't explain how the microscopic physical changes during the creation of that memory can result in the sensation of overwhelming pain. Where and how in the process of changing such molecular structures do "I" or "you" have the experience of, for example, intense pain?

As this line of thought tends towards obscurity, it should be noted that we are not necessarily advocating that only the physical changes of memory creation can give rise to experience. However, as we've already found other possibilities such as electrical impulses and dataflow to be equally obscure (as we will summarise again shortly), we are running out of non-metaphysical explanations to explore.

The true extent to which the materialisation of the experience of pain is not understood is revealed in a study of phantom pain whereby a recent "neuromatrix" theory has emerged that, according to Wikipedia, "*extends beyond body schema theory and incorporates the conscious awareness of oneself. This theory proposes that conscious awareness and the perception of self are generated in the brain via patterns of input that can be modified by different perceptual inputs* (Giummarra et al., 2007)".[1] This research is not as metaphysical as it may first appear to be in that it attempts to describe a "neurosignature" resulting from a malleable genetically predetermined network against which anomalies are compared.

The main point to make in concluding the above is that, as was mentioned much earlier on[2], experiencing sentience cannot be pinned to any simple logical activity such as memory creation, adding or access. Such logical activity cannot be sentiently experienced within electro/mechanical/chemical activity alone unless we assume sentience is available to all objects capable of electro/mechanical/chemical interaction, including cars, washers, fridges, computers and the simplest of items such as the flashlight torch also discussed earlier[3]. If we continually dig deeper into the process of memory making and retrieval, we may find ever more complex possibilities regarding the point and location of the experience-moment but this invariably leads back to a state of Zeno's Paradox Of Halves[4].

As this all tends to point towards there being no specific position, location or target for the quintessential conscious awareness of stimuli such as pain, then we must look at brain activity rather than just matter. That brings us back again to the passage 1.6.1.1 "The Mechanics of the Experience-Moment" where we also considered dataflow in Point 3. In that conclusion, we found against dataflow because it gave us the conflicting outcome that dataflow elsewhere in the nervous system, the solar plexus, the cerebellum etc, should *also* be bringing about the materialisation of sensations. This simply conflicts with the knowledge that various dataflows are still present when an individual is asleep or unconscious, yet experience is absent.

We've come a long way since that earlier passage so let's look again at this with the benefit of the discussions we've covered since...

If we consider relevant dataflow to be responsible for our quintessential conscious awareness of sensations such as pain, then first, we would have to explain the difference in dataflow between pleasure and pain, and why some dataflows give rise to sensations belonging to us, while other dataflows within our bodies are not felt at all.

Secondly, we have the bizarre possibility of consciousness floating around anything with dataflow. We should be able to create consciousness in computers by simply recreating the relevant dataflow. As we noted earlier, if the relevant dataflow is simply tension, then the national electricity supply grid would be experiencing a considerable amount of consciousness.

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[1] from http://en.wikipedia.org/w/index.php?title=Phantom_pain&oldid=411103310#The_neuromatrix (citing Giummarra et al., 2007 http://dx.doi.org/10.1016%2Fj.brainresrev.2007.01.009)

[2] See earlier passage 2.2.1.2, "Experience, Ownership, Sentience", paragraph 13

[3] See earlier passage 2.2.1.2, "Experience, Ownership, Sentience", paragraph 3

[4] See earlier passage 1.6.1.1, "The Mechanics of the Experience-Moment", paragraph 4

Thirdly, quintessential conscious awareness arising from dataflow removes the association of the individual consciousness from the body. To describe the individual consciousness as being a function of dataflow, even if it does require a functioning logical device to circulate in, is to arrive at an explanation that is more metaphysical than scientific. Consider the experience of pain again and consider how dataflow may materialise that sensation of pain. How can that pain belong to a dataflow? Dataflow seems to provide a reasonable enough explanation for consciousness but it raises questions about ownership, why nearby dataflows in other beings remain entirely independent and cannot exchange raw sensations such as pain.

To extend the explanation for consciousness to go beyond dataflow and include all the activity of the brain in general, being the full combination of dataflow interacting with appropriately arranged matter, then this extended activity certainly goes further towards explaining how we can be self-aware and how our self-aware consciousness can materialise pain. However, given that this activity is nothing more than energy and change, this explanation is rapidly parting company with the neurally bound explanation that non-theist science would surely prefer.

Moreover, as soon as we extend dataflow to be all the activity of the brain in general, we come back to the problem of location and association with specific parts of the brain. What part of my brain links my pains into my consciousness? When we consider that the materialisation of pain within our individual consciousness comes from some activities and not other parts of our own body such as our cerebellum and solar plexus etc, then we are entitled to question what parts of the brain must be affected by dataflow for that materialisation of pain and pleasure to belong to "me".

Put simply, my consciousness must have some association with the brain to identify my sensations as belonging to me, and we need to find the *driver's seat* upon which such dataflows must act to be identified as mine.

What part of imposing memory upon neurons can possibly materialise pain? Indeed, what part of dataflow simply interacting with neurons can possibly materialise pain?

6.1.2.4 Driver's Seat

Now that we have cast doubt on memory formation materialising sensations such as pain, and perhaps now we have a clearer definition of that missing ingredient, namely (as a reminder) that we can identify Quintessential Conscious Awareness as "The seat of knowledge of experience that does not require reason or memory, as with intense sensation such as agony and ecstasy",[1] then perhaps we can now look again at just where we might find this Driver's Seat.

Can it be that the synapses and neurons in our brains contain chemical properties or cellular machines that can "know pain"? Can it be that billions of minute electrical impulses can "know pain"? Can it be that all these things resonating in symphony, thinking about the damage some nerve impulses convey, can permit us to imagine pain and therefore cause us to "know pain"? Could it be that it is only when intense sensations are translated into a chemical imbalance akin to a type of mood that we can "know pain"?

Any or all of these possibilities, if true, would have to lead us to conclude that inanimate chemical structures, and/or electrical charges and currents, or anything under tension and stress, can simply "know pain". This would be to imbue basic physics with "the knowledge of experience". This is to make the assumption, for example, that a hot atom knows it's hot, and a cold atom knows it's cold, or to assume that a spring knows when it is compressed or stretched.

The critic might say this is too simplistic, and so perhaps it is time to give yet another computer comparison. We could have a computer with sensors and a program that can identify when the spring is in a state of tension, and if so the computer should flash the word "pain". Perhaps we could close the loop and assume the computer is an industrial control computer and it mechanically moves something to relieve the pressure. This would give the computer's electrical impulses "responsibility". To simulate chronic pain, we could remove the computer systems ability to correct the tension in which case it would be forever trying, perhaps forever spinning a motor with a disconnected driveshaft. Conditions within this model could well be described as "pain" but there is nothing within this model that could conceivably "know" pain in the same way as we personally know of it. As a reminder, we ruled out this possibility some time ago in 2.2.1.4 "Hammer House of Supercomputers" where we noted we could not even define a test as to whether or not such a computer was awake.

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[1] See earlier passage 6.1.2.1, "Ultimate Knowledge of the Inner Experiencer", paragraph 11

It doesn't matter how we look at it, none of these situations compare to the way we know pain. On a personal level, I can vouch for the certainty that within me there is a knowledge of pain when pain occurs, a knowledge that requires no understanding, no reasoning, no comparison with previous experience, no memory, and yet I know that experience occurs. I can be in the middle of the desert with no one to witness whatsoever except for my inner witness which knows that the sensation occurred.

Furthering this observation, we should remind ourselves that very intense pain, as with very intense pleasure, are sensations that flood the brain to the point of denying thought. Of course we don't have to just consider intense sensations, we can also consider normal everyday activity, but the point is that thought is a separate activity. Thought is not always necessary to know basic sensation.

So where do these sensations go to? An incorporeal Driver's Seat with no location, no explanation? If I accidentally tread on your toe, I don't know where that sensation went to but if you tread on my toe, I know exactly where that sensation went. I'm in that driver's seat.

This notion of a driver's seat, all the experiencer as we referred to it earlier, becomes more pertinent when we consider sensations that belong to us or not.

In all our foregoing exploration of how experience might be attributable to various types of brain activity, we haven't asked the question of what is it that makes brain activity associated with my experience. The answer seems obvious enough -- my brain activity, whether that be physical change associated with long-term memory or data flow associated with immediate sensation and short-term memory, is associated with me because it is connected to me as an individual.

But then I must have a centre of self, a driver's seat, that is the "me" that all this is connected to. This is especially so if I am to explain why some areas within myself are stimulated without my consciousness knowing it. An excellent example is the use of an epidural to block labour pain. Obviously the source of pain is thereafter disconnected, and yet the same physics are occurring on the other side of the blockage. Of course we don't find that surprising because we all tend to accept that the centre of "me" is an our brain.

The problem with this comes back to when we reexamine, as we did in the last passage, what happens when we get to the end of our ride on the back of a stimulation as it journeys into the catacombs of our consciousness. We know that something must happen, but where and what is ambiguous. Indeed, we concluded it was most likely a combination of physics, data flow and general brain activity. This means my driver's seat is everywhere in my brain but why then do we have borders to the extent that my driver's seat does not extend down the spinal column and beyond?

If I am nestling a child or other person in pain right next to me with our heads touching, their pain does not actually become my experience. I might comfort that person by saying "I feel your pain", but in reality that is just a statement of compassion. It might sound a bit fatuous to suggest that there is no particular reason why my driver's seat should be bounded, but then if a stimulation travels into no particular part of my brain and washes over me becoming "my" pain regardless of what cells it physically changes to register as memory, then there is no way of knowing where my driver's seat is.

Or to put it another way, yes, there is complete isolation and this is obviously because my experience is solely connected to those stimuli that occur within my body. Thus, my driver's seat is obviously somewhere within my neural networks.

But where? Of course it becomes a circular argument because again we must consider how we slid into obscurity when we tried to pin down any particular location as we did when we journeyed through the catacombs of our consciousness, and instead we concluded that at the very least experienced must be the sum of physics and data flow in general.

The question of connection to "me" establishes that there must be some kind of locatable driver's seat for the knowledge of experience, but this location is ambiguous. This notion of location becomes even more challenging when we try to consider what happens when the brain becomes intentionally or unintentionally divided up as we will see when we come to the passage 7.2.2 "The Pineal Gland" and move on towards 7.2.4.2 "Brain Splitting Masterclass". It gets even worse when we consider "why me?" -- that is to say, why is this "me" associated with this particular body at all? We come back to that in the passage 7.4 "The Problem of Unpredictable Emergence".

We may be able to explain almost all of our functionality as brain, blood and bone activity, we may even have to abrogate responsibility for our virtues, principles and motivations to genetic and environmental factors, memorised or present. However, we cannot explain either the nature or location of the knowledge of experience that uniquely occurs within each of us.

Perhaps now it is time to see what Descartes can tell us..

6.2 Cartesian Dualism and its Relevance

Let's call upon that great philosopher Rene Descartes to nail home the nature of the Sensater that we discovered back in the passage 3.1.2 "Consciousness Defined" and see if that helps with our rebuttal..

6.2.1 Who Was Descartes?

"If you would be a real seeker after truth, it is necessary that at least once in your life you doubt, as far as possible, all things" -- René Descartes.

"I think, therefore I am" (perhaps René Descartes most famous quote).

René Descartes (31 March 1596 - 11 February 1650) was a French philosopher, mathematician, scientist, and writer[1]. Much of *Awoken Evolution* stems from concepts identified by Descartes' Meditations. The Latinized form of his name, Renatus Cartesius, gives rise to Cartesian in the term "Cartesian Dualism" etc (including "Cartesian Coordinates" for those who can remember their school maths).

The book "Think" by Simon Blackburn[2] describes Descartes' Meditations concisely as a series of meditations perhaps stemming from the time when he shut himself away in a room heated by a stove and had a "vision followed by dreams which he took to show him his life's work".

There are 6 Meditations being a study of what is knowable and real.

The first meditation is titled The Evil Demon in which he wonders at the hypothetical premise that nothing is real and there may be an evil Demon simulating and manipulating reality. This Evil Demon's manipulations are something like those conceived of by the fictional creators of The Matrix (a synthetic reality fictionalised in the 1999 film of the same name[3]).

The second meditation is titled Cogito, Ergo Sum (Latin basically meaning the classic phrase "I think, therefore I am"). At the bottom of page 21, Blackburn quotes Descartes as saying "... in view of this I know plainly that I can achieve an easier and more evident perception of my own mind than of anything else."

The third meditation is titled Motivations, Questions -- and here, Descartes seems to be going through a complex set of challenges to himself concluding that there is no way of disproving the first Evil Demon hypothesis (there is no way of proving whether or not our senses are real). However, significantly he concludes he can prove that he exists because he thinks. For example, page 28, Blackburn says "but it is not logically possible for him [the Evil Demon] to deceive me into thinking that I exist when I do not.".

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[1] http://en.wikipedia.org/w/index.php?title=Ren%C3%A9_Descartes&oldid=291467778

[2] Think: A Compelling Introduction to Philosophy. (1999) ISBN 0-19-210024-6 and ISBN 0-19-969087-1. http://en.wikipedia.org/wiki/Simon_Blackburn

[3] See also "Bibliography & Media References"

The fourth meditation is titled The Elusive "I" -- Blackburn says "You can become aware of your own experiences, but never, it seems, aware of the 'I' that is the subject of those experiences." On the same page he references Descartes (as a reconstruction of one of Descartes' points): "I cannot doubt that I exist. I can doubt whether things extended in space ('bodies') exist. Therefore, I am not a body". Immediately after this, Blackburn says "in a nutshell, souls are certain, bodies are doubtful, so the soul is distinct from the body."

For the curious, the fifth meditation is titled Clear and Distinct Ideas. The sixth meditation is titled The Trademark Argument.

At this point, we should note that Simon Blackburn doesn't entirely agree with Descartes' reasoning describing "The Elusive I" meditation as only superficially plausible. Certainly Descartes' black-and-white reasoning concluded with assertion "Therefore, I am not a body" does instinctively raise concerns. Nonetheless, such criticisms (and Simon Blackburn is not alone) may not do justice to Descartes underlying conceptual discovery. Other critics too seem sidetracked by rationalising from a *third person perspective*[1] but it seems this is to detract from Descartes intention of embarking on a journey to the centre of self, attempting to find why he existed within himself just as we in turn only individually "know" about our one individual self.

An interesting and very brief critique of Descartes is demonstrated in the following tract copied verbatim from Wikipedia[2]...

> Ontological and epistemological certainty:
>
> René Descartes, with "cogito ergo sum" or "I think, therefore I am", argued that "the self" is something that we can know exists with epistemological certainty. Descartes argued further that this knowledge could lead to a proof of the certainty of the existence of God, using the ontological argument that had been formulated first by Anselm of Canterbury.
>
> Certainty about the existence of "the self" and "the other", however, came under increasing criticism in the 20th century. Sociological theorists, most notably George Herbert Mead and Erving Goffman, saw the Cartesian Other[3] as a "Generalized Other", the imaginary audience that individuals use when thinking about the self. According to Mead, "we do not assume there is a self to begin with. Self is not presupposed as a stuff out of which the world arises. Rather the self arises in the world"... The Cartesian Other was also used by Sigmund Freud, who saw the superego as an abstract regulatory force, and Émile Durkheim who viewed this as a psychologically manifested entity which represented God in society at large.

Offering a well researched and fully reasoned critique of any of these philosophers is well beyond the scope of Awoken Evolution, but on the face of things, resorting to descriptions of "the imaginary audience that individuals use when thinking about the self" (whether describing consciousness, self, or the "generalised other") is once again flawed by rationalising from the third person perspective. The flaw arises by analysing how consciousness might be "simulated" in another thinking organism without introspective analysis of one's own sentient conscious awareness. When one considers one's own sentience, we have to ask what imagines the imaginary audience, and how this imagination is communicated with some very real sentient target.

6.2.2 What can Descartes tell us?

Cartesian Dualism is the popular title for Descartes particular version of the philosophy Dualism (itself dating back to Plato[4]) which postulates that "the mind is a nonphysical substance"[5].

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[1] See earlier passage 1.5, "Four Questions", paragraph 32

[2] http://en.wikipedia.org/w/index.php?title=Ontology&oldid=358342063#Ontological_and_epistemological_certainty

[3] http://en.wikipedia.org/w/index.php?title=Cartesian_Other&oldid=332041752

[4] as at http://en.wikipedia.org/w/index.php?title=Dualism_(philosophy_of_mind)&oldid=291190819#Plato_and_Aristotle -- "Plato was a very powerful precursor of Descartes and his subsequent more stringent formulation of the doctrine of substance dualism"

[5] See http://en.wikipedia.org/w/index.php?title=Dualism_%28philosophy_of_mind%29&oldid=224692055

In terms of Ontology, "*the philosophical study of the nature of being, existence or reality in general*"[1], Cartesian Dualism is probably the closest classical philosophical viewpoint to the one espoused throughout this dissertation.

The following text borrowed from Wikipedia[2] best describes the foundations of Descartes' philosophy: "*he discovered that he could doubt whether he had a body (it could be that he was dreaming of it or that it was an illusion created by an evil demon), but he could not doubt whether he had a mind. This gave Descartes his first inkling that the mind and body were different things.*"

Earlier in that same Wikipedia article, Descartes' is attributed as being "*the first to clearly identify the mind with consciousness and self-awareness and to distinguish this from the brain, which was the seat of intelligence*"[3].

It should be stressed here that Descartes use of the word "mind" was in the philosophical sense[4], not in the very physical sense of the brain. We can see that Descartes' is looking to show that there is something separate from the brain.

One of the themes throughout this dissertation is that the inner self, often denigrated as merely a self-sensation, is to each of us personally a more certain reality than reality itself because it is from this *Sensater*[5] that we "judge reality". [6][7][8].

This inner reality can only be observed on a personal level -- because the observed is the observer. Its reality is the ultimate reality for those of us that choose to acknowledge it, and that acknowledgement of it is to some the difference between a spiritualist/theist position and that of an atheist or non-theist position.

As we noted earlier, the philosophy of dualism is of course not without its critics. In particular, Locke is a critic of Descartes' Cartesian Position, and Aristotle is a critic of Plato's Theory of Forms[9] which we come to shortly. In a popular summary of John Locke's critique of Cartesian Dualism, it is said that Locke considers the Cartesian position "*holds that man innately knows basic logical propositions*".[10] and feels that this leads to errant conclusions unless it is considered that consciousness starts form an "empty" mind shaped by experience, reflections and sensations which in turn gives rise to a "Lockean self" which is more material. It is beyond the scope of this dissertation to offer a riposte, save to say that we disagree along the lines that mankind's knowledge of logical propositions do undoubtedly emerge even if they are not innate.

What Descartes has to tell us should be taken in moderation just as in everything but the crucial discovery, that the inner self is more knowable and undeniable than the "substance" of the body and other worldly things, is not diminished.

6.2.3 How do we square with Descartes and Plato?

Descartes offers us a logic that can vindicate that feeling or tacit knowledge that we have a spirit or soul, or that consciousness is something special.

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[1] http://en.wikipedia.org/w/index.php?title=Ontology&oldid=338765212

[2] See http://en.wikipedia.org/w/index.php?title=Dualism_%28philosophy_of_mind%29&oldid=224692055#Descartes_and_his_disciples

[3] as above, http://en.wikipedia.org/w/index.php?title=Dualism_(philosophy_of_mind)&oldid=291190819

[4] http://en.wikipedia.org/w/index.php?title=Philosophy_of_mind&oldid=273772308

[5] See also 3.1.2 "Consciousness Defined"

[6] "The beliefs of Socrates, as distinct from those of Plato, are difficult to discern" -- http://en.wikipedia.org/w/index.php?title=Socrates&oldid=287949949#Philosophical_beliefs

[7] Plato / Metaphysics http://en.wikipedia.org/w/index.php?title=Plato&oldid=290489791#Metaphysics

[8] Platonic Realism http://en.wikipedia.org/w/index.php?title=Platonic_realism&oldid=284569507

[9] http://en.wikipedia.org/w/index.php?title=Dualism_(philosophy_of_mind)&oldid=291190819#Plato_and_Aristotle -- "Aristotle strongly rejected Plato's notion of Forms as independently existing entities."

[10] http://en.wikipedia.org/w/index.php?title=John_Locke&oldid=292598058#The_self in turn citing "The American International Encyclopedia, J.J. Little Company, New York 1954, Volume 9"

In particular, Descartes' provides logical evidence (however disputable) that consciousness is not necessarily a physical phenomenon.

Borrowing from Descartes, we can conclude that human beings have a dual reality, one being our inner reality and the other being the reality in which we exist. We can question, doubt or just close our eyes to the reality in which we exist, but we cannot doubt, fool or escape our inner reality.

Rather than calling our inner reality metaphysical, we simply conclude humans have a quintessential conscious awareness that is unexplained,[1] and while ever it is unexplained, we cannot be certain of anything that is built on evidence-based scientific thought processes. Not only is our inner reality different to the reality we live in, it is superior. Regardless of whether or not the worldly reality we live in is questionable or distorted, perhaps by deception, naivete, drugs, or ill health, our inner reality judges what is real or not and therefore our inner reality is more real.

In this, Plato too comes to our aid. "*Plato's **Theory of Forms** asserts that Forms (or Ideas), and not the material world of change known to us through sensation, possess the highest and most fundamental kind of reality*"[2].

Dualism for Plato groups intellectual activity in with the incorruptible inner reality. Here, we beg to differ with Plato[3] and agree with Descartes -- intellectual activity and the brain are all part of the environmental reality we find ourselves living in, but the only part of our inner reality we cannot doubt is the experience of sensations. It thus follows that experience, such as pain, is incorruptible but that the cause of that pain or the reasoning that we use to explain it can be corrupted and even completely wrong.

Because Free Will really can be explained away as the process of integrating decisions with virtues, and because thought really is simply a process such as occurs in a computer, it is not possible to conclude that intellectual activity is independent of physics, nor is it at all mystical at anytime.

However, our inner reality is the conscious awareness of the existence of experience resulting from sensations that cannot be attributed to any particular molecular structure or processing activity.

As said much earlier on in the passage 1.4 "Source Of The Experiencer", "experience" might simply be the conversion of sensations to memory, but our conscious awareness of this conversion existing is much less easily explained. Pain, as discussed throughout Awoken Evolution, and particularly as examined in the passages 6.1.2.3 "Catacombs of Consciousness" and 6.1.2.4 "Driver's Seat", offers a rebuttal to the non-theist notion that "experience is memory creation" as raised at the end of 5.2 "Debunking Feelings" -- we cannot simply write off the experience of intense pain as a transfer of experience into memory.

Indeed, what happens if we put a Cartesian spin on awareness of pain? Let's remind ourselves again of our favourite summary of Cartesian Dualism: we can question, doubt or just close our eyes to the reality in which we exist, but we cannot doubt, fool or escape our inner reality. When we look at pain, we can say that we can be unsure of the reasons for pain, especially in the case of phantom pain (headaches, phantom limb pain, etc), but we can be very certain we are experiencing it.

6.3 Castles in the Air

Now that we have examined the significant philosophy of Cartesian Dualism, we can begin to assert with authority that the knowledge of experience of feelings and sensations is a very real phenomenon that cannot be debunked by deferring to cascading repetition of introspection or anything else so absurd.

Our journey still has some way to go, but let's be reassured that consciousness is at the core of much philosophical debate down the centuries and is still very much a live subject today. We are first and foremost conscious entities that continue as a life force in our bodies as they progress or deteriorate. It seems that non-theist thinking would prefer to think of that life force as a byproduct of organic life rather than the life force which awakens and illuminates it.

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[1] See also 8.2.2 "Qualia & Sentience"

[2] http://en.wikipedia.org/w/index.php?title=Theory_of_Forms&oldid=291073959

[3] "in order for the intellect (the most important aspect of the mind in philosophy up until Descartes) to have access to any kind of knowledge with regard to any aspect of the universe, it must necessarily be a non-physical" -- http://en.wikipedia.org/w/index.php?title=Dualism_(philosophy_of_mind)&oldid=291190819#Plato_and_Aristotle

The proof of it is the vivid feeling of that life force within each of us. It can be explained as advanced perception and excused as a way of enhancing our intelligence and is useful to the survival of the fittest, but no such explanation can be given to a person suffering the agonies of loss and pain, nor indeed to someone revelling in the joy of achievement, love and lust.

To assume a person has no soul and to say to that person the joy or sorrow you now feel is because you evolved to "feel" is akin to talking to a computer and explaining to it that it commercially evolved into something useful and asking it if it feels glad or sad. Let's assume the computer has an application designed to converse with you -- even so, it truly is deterministic. The lights are on but no one is at home. If you are addressing another person, it is pointless unless you know that person is awake, listening and feeling.

To hear it said that free-will is not possible in a deterministic universe, and then to hear it universally acknowledged that we feel and know ourselves to be labouring to apply our will, demands that we understand how feelings interact. It feelings themselves merely be the movement of chemicals and electrons, then what part of ourselves experiences these feelings? If our quintessential conscious awareness is neurally bound, sentient "feelings" must be explained and explainable!

If feelings cannot be explained, and the act of exercising Free Will gives rise to feelings, then the entire logical construct of the psyche as we presented it starts to unravel. That great citadel of accepted conventional scientific wisdom of a psyche that can be explained in detail, without calling upon the metaphysical in any way shape or form, starts to look increasingly like Castles in the Air.

If we think of feelings merely as heightened sensitivity, we are describing a sensitive cellular machine, not what it is like to be in the experiencer in that machine. We cannot completely describe the machine until we understand its life force.

Apart from emotion, logic and philosophy, what else disagrees with such non-metaphysical conventional scientific wisdom? Surely not The Law?

6.3.1 Legal Obligation to Believe

If a dog mauls and kills someone, we put the dog down. The dog does not get a trial, has no rights such as human rights. Moreover, we don't judge the dog, we don't proclaim the dog to be immoral, we don't hold the dog responsible and punish it.

With humans it is quite the opposite -- Humans are presumed to have access to something called Moral Agency which makes a person responsible for making moral judgements and knowing the difference between right and wrong.[1]

The law holds us responsible as with Mens Rea[2] and punishes a defendant found guilty for acting irresponsibly, immorally, etc. If the defendant is unable to express or use his will, he is held to be not guilty on grounds of diminished responsibility.

Thus, the law assumes we normally know the difference between good and evil and that we are able to exercise choice. How often do we hear the word "evil" used in the summing up speeches by judges and magistrates? How can energised and animated matter exercise Free Will when choice is simply a process weighing the options and selecting the direction of least resistance?[3] How can someone be punished for selecting an irresponsible choice?

Of course there is no denying there are laws that evolved alongside religion such as where the Law of England grew up alongside the Church of England with British monarchs presiding over both, nonetheless it appears (one assumes) the Law of England wishes to be seen as nondenominational.

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[1] http://en.wikipedia.org/w/index.php?title=Moral_agency&oldid=363112646 and Agency: http://en.wikipedia.org/w/index.php?title=Agency_(philosophy)&oldid=357830473

[2] See earlier passage 2.2.1.3, "Sapience & Sentience, the Link", paragraph 9

[3] See also 2.3 "Cause and Effect v Free Will"

There is also no denying the purpose of the law and retribution. Justice must be seen to be done to defuse conflict, punishment is necessary as a deterrent to others, and restraint is necessary for society's self protection. Perhaps to that extent, the law has evolved, but what of the means by which we judge?

By asserting that we must have access to free will, where this is at odds to the logical nature of determinism, the law is effectively embracing the properties of deities and counts us as subjects in the battle between good and evil. It completely defies the absolute logic of determinism. Doesn't that tell us something?

Until Hard Determinism is used successfully as a defence in a court of law for the committing of a crime, each of us individually must continue to take legal responsibility for our actions. At least we can be reassured that Free-Will exists is enshrined, embraced and even enforced by law, despite the lack of such assurance by science.

But is Free Will possible? Oddly enough, with the mishmash of conflicting philosophies that abound, it would seem our legal systems are even more certain of this than our philosophers...

6.3.2 Free Will Revisited

On Free Will:

> We are less than atoms, I say, because the atom obeys the law of its being, whereas we in the insolence of our ignorance deny the law of nature. --ref: Mohandas Karamchand Gandhi in *Young India* (24 September 1931); also in *Teachings Of Mahatma Gandhi* (1945) [1]
>
> "Without his will he is born, and against his will he dies" -- Erich Fromm[2].

Lucretius' great poetic narrative, "On the Nature of Things" that we quoted in 5.1.4.4 "Determinism, Free Will and more Wordplay" was anchored in Epicurean materialism (against divine intervention etc[3]) and yet he seems to express the problem of Free-Will so well, he could have been an advocate for Free-Will's dependency on the metaphysical. Here we expand the same quote (portion already quoted is in italics) to demonstrate..

Again, if movement always is connected,
New Motions coming in from old in order fixed,
If atoms never swerve and make beginning
Of motions that can break the bonds of fate
And foil the infinite chain of cause and effect
What is the origin of this free will
Possessed by living creatures throughout the earth?

Whence comes, I say, this will-power wrested from the fates
Whereby we each proceed where pleasure leads,
Swerving our course at no fixed time or place
But where the bidding of our hearts directs?
For beyond doubt the power of the will
Originates these things and gives them birth
And from the will movement flowed through the limbs.
[.....]
Within the mind there's no necessity
Controlling all its actions, all its movements,
Enslaving it and forcing it to suffer -
That the minute swerving of atoms causes
In neither place nor time determinate.

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[1] edited by Jag Parvesh Chander, p. 458 http://en.wikiquote.org/w/index.php?title=God&oldid=792124

[2] From "The Art of Loving", ISBN 1-85538-508-8 (3rd para, Section 2, chapter 1)

[3] http://en.wikipedia.org/w/index.php?title=Epicureanism&oldid=362413873

> ...Lucretius (ca. 94-ca. 55 B.C.), "De rerum natura"[1]

He seems to be undoing his own point in that having so powerfully and masterfully expressed the dichotomy of free-will, one would expect an equally masterful explanation. However, he then lets us down somewhat by deferring free will to the exterior motion of atoms, something which he later goes to great lengths to describe as exceedingly complex and diverse based on discussions of the infinity of things. All this is confirmed by Thomas Creech[2] who says of Lucretius (in old English[3]):

> We need not seek an external Cause for the voluntary Motions of the Mind: for voluntary Motion contains within itself such a Nature, that it is in our Power, and is obedient to us; and this too not without a Cause: For Nature herself is the Cause of it. Lib. de Fato. Thus even in Cicero's opinion any antecedent external Cause takes away Liberty. But Freedom of Will does not require an antecedent external Cause to make it move; since it has the Cause of its Motion within itself. Therefore Lucretius has no reason to ascribe the voluntary Motions of Men, or of irrational Animals to the exterior Motion of Atoms; since they proceed from the very Nature of the Free Mind. 'Tis well however that Lucretius owns, that all our Actions are not the Effects of Necessity or Fate; but he was in no wrong to impute this Freedom to the declining Motion of his Atoms.

From this, we see Creech disagreeing with Lucretius and appearing to be in some disarray in explaining the cause of free-will by citing Nature and free-will having the cause of its motion within itself. So what is the truth and is it even attainable?

As detailed in our debunking exercise in 5.1.4.4 "Determinism, Free Will and more Wordplay" preceding, we noted that Free Will is simply Determinism willingly exercising our preconceptions and virtues, and that there is thus no Will-Gap enacting mystical judgement on a momentary basis. This leaves the term Free-Will denigrated down to merely another way of saying we are willingly making a decision, which is something I'm sure Lucretius would agree with. Ie: we freely express our will, but Will is still predetermined.

Revisiting the American Heritage dictionary definition of Free-Will[4] being:

- The ability or discretion to choose; free choice: *chose to remain behind of my own free will*.
- The power of making free choices that are unconstrained by external circumstances or by an agency such as fate or divine will.

So these seem to agree with Creech but unfortunately they conflict with hard determinism (next) and this is where we look to the various philosophical positions. Unfortunately, there are also some strikingly contradictory philosophical positions on the subject as well. For example, "Some, called Incompatibilists, view determinism and free-will as mutually exclusive. The belief that free will is an illusion is known as *Hard Determinism*"[5].

Perhaps we should look at what free-will means to us in layman's terms... An "Everyman's definition" for Free-Will might thus be as follows:

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[1] Titus Lucretius Carus, Latin poet and philosopher, "On the Nature of Things": http://books.google.co.uk/books?id=nPSznx8_XhwC&pg=PA43&lpg=PA43&dq=%22Again,+if+movement+always+is+connected%22&source=bl&ots=eNOV5Wuekf&sig=yaypCYoGElGTjD7w4mf8Ma-GJ3o&hl=en&ei=7-AATIaKG6T-0gTpmJDMAw&sa=X&oi=book_result&ct=result&resnum=5&ved=0CC0Q6AEwBA#v=onepage&q=%22Again%2C%20if%20movement%20always%20is%20connected%22&f=false

[2] http://en.wikipedia.org/w/index.php?title=Thomas_Creech&oldid=334308386

[3] in the book titled Titus Lucretius Carus of the Nature of Things. In Six Books. Translated.. by Thomas Creech (explained and annotated), p118, top 2nd column, in Creech's analysis: http://books.google.co.uk/books?id=ZU9DAAAAYAAJ&dq=Lucretius&lr&as_drrb_is=q&as_minm_is=0&as_miny_is&as_maxm_is=0&as_maxy_is&num=20&as_brr=1&pg=PT195#v=onepage&q&f=false

[4] The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2003. Published by Houghton Mifflin Company. All rights reserved.

[5] http://en.wikipedia.org/w/index.php?title=Determinism&oldid=225809575#The_nature_of_determinism

- Free Will is the feeling that we struggle or labour hard towards the ideal of judging and choosing with care and virtue, and that we are not simply on railway tracks predetermined by memories, predispositions and preconceptions.

Unfortunately, we can only conclude that all this labouring is simply the brain working harder to more accurately determine the best course of action where the decision is less well defined and the resultant action has more consequence. The brain is still working with the same preconceived virtues, memories, predispositions and preconceptions.

We seem to be in a corner. Or are we?

Essentially, it comes down to whether or not our inner self, our inner reality, ever had influence over the preconceived virtues, memories, predispositions and preconceptions. To have never exercised any control over these factors would be Fatalism[1] or even Nihilism[2] (said to be "a philosophical position which argues that Being is without objective meaning, purpose, truth, or value"[3]) which seems to be the opposite of what we "*feel*" Free-Will to be.

It is this *Feeling* that we should not overlook. We *Feel* ourselves to be involved and immersed in the use of free will. To the individual, we each experience the *Feeling* of labouring to learn, use and choose our virtues, and we experience a heightened *feeling* of responsibility if the resultant action has consequences.

The key question that unlocks all this is as follows..

> Does what we FEEL get fed back into the decision-making process?

The answer is that surely it does. Can anyone deny that the strength of feeling, that is to say the experience of feelings and sensations generated by a difficult decision, becomes a part of the decision-making process that is underlying any act of free will?

Consider an example that we will have all encountered in one form or another -- where we have tried to achieve a positive change and perhaps failed more than once already, and we are trying to decide whether or not to have one more attempt.

If we feel dejected, we are unlikely to find the energy to push ourselves over the hurdles. Moreover, if we tell ourselves feelings are irrelevant, we risk becoming simply fatalistic -- not philosophically fatalistic but fatalistic in the more common use of the word -- despondent and overwhelmed by a feeling of pointlessness, and we are far less likely to become passionate and driven. Notice that the "feeling" would change to one of being despondent and that change of feeling would be the key reason for choosing a less vibrant outcome.

On the other hand, if we feel passionate about the desired change, we can use our feelings to motivate ourselves towards a positive outcome, and to retry the process, perhaps learning constructively from past efforts in order to refine the next attempt.

Feelings become an undeniable part of the process and so this becomes a profound addition to "free-will". What makes free-will so compelling, so bereft of hard determinism and so removed from cause and effect, is that the process of free-will is a process of decision-making that incorporates the "feelings" that arise from quintessential consciousness.[4]

Fine words, but how can we offer substance to back them up?

Before we can offer substance, it's time to review the logical tools we need to form any kind of proof...

6.4 A Critical Look at Logic

In an attempt to debunk the mystical and metaphysical workings of the brain, the foregoing "debunking" argument used a hypothetical Dual Reality Model as a framework upon which we wove logic in order to exceed even existing theories regarding the human psyche. Do the realisations of abstract entities in this hypothetical model including inner reality, external reality, reality interpreting brain layer, and spectator help? Were they realistic abstracts or was it just beguilingly vivid prose? The ease with which we can become absorbed in a theory and immersed in the logical integrity of it may be testament to the veracity of the argument surrounding them, or it may be due to our willingness to imagine, categorise, pigeonhole and reason away.

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[1] http://en.wikipedia.org/w/index.php?title=Determinism&oldid=225809575#Philosophy_of_determinism

[2] http://en.wikipedia.org/w/index.php?title=Nihilism&oldid=228767186

[3] http://en.wikipedia.org/w/index.php?title=Nihilism_%28disambiguation%29&oldid=210050057

[4] See prior in this passage, paragraph 36

So what was wrong with that if anything? For one thing, we attempted to observe humanity as if we were independent of it. We started to rationalise human consciousness as brain activity derived from the logic of evolution and the survival of the fittest. We removed our perspective of observation from the first person to the third person. Furthermore, we created a theory comprising premises that inherently had the conclusion built into them.

The philosopher Francis Bacon was not heralded as a "pioneer in the scientific revolution" for nothing[1]. This accolade was heaped on him because of his pragmatic approach to logic. Among other things, he advocated that knowledge could not be served by allowing preconceptions[2]. He is variously quoted as saying "the inquirer is to free his mind from certain false notions or tendencies which distort the truth." [3].

This applies especially in the treatment of "feelings" (typically referred to in full as "the experience of feelings and sensations") which we presumed were neurally bound, synthesised and an illusion from the outset. This led to a relatively simple rebuttal especially when we noted how much of the debunking was based on flawed reasoning regarding these "feelings". Of course a theory will always have unproven premises and conclusions built in without which such theories would simply be a statement of fact. It only remains to question to what extent it is plausible and feasible to build on such theories.

Inductive Reasoning as advocated by Francis Bacon is an interesting subject in its own right[4]. It permits that a conclusion can include premises geared towards the desired conclusion, but only with great care. For example, we cannot easily prove a given cup is in its normal cupboard unless we first presume it is -- to prove this is true or false whilst keeping a perfectly open mind would be to examine all cups in all cupboards everywhere by starting at a random location. If instead, we harbour a harmless premise that it is probably in our cupboard, we can then look there for it. Essentially, Bacon along with the rest of us wants to rule out bias, and yet we all recognize the need to have some idea of what conclusion we aspire to before assembling our reasonings to prove it. Whilst avoiding bias is a laudable aspiration, Bacon's method of Inductive Reasoning was attacked by many including most notably David Hume[5].

Bacon makes it quite clear what he means when he advises that it is necessary to free the "mind from certain false notions or tendencies that might distort the truth". Of course one could immediately take issue with this because it is suggesting that the Inquirer would know whether or not a notion was true or false before undertaking any reasoning. Even if we assume "false notions" should be replaced with "uncertain notions", there is still a problem. With the example of the cup in the cupboard, if we abandoned any notion it was in our normal cupboard, we would once again have to examine all cupboards everywhere.

Of course the phenomenon that we are looking for is not cups in cupboards, it is Quintessence -- the sense that one finds oneself as a trapped spectator embodied in animated flesh. If it is presumed consciousness is neurally bound, we can go looking for it therein. If we don't find it therein, we have to cast our net wider. If it is thought to be metaphysical, it's a little like saying the cup is outside of the cupboard. This gets into another realm of knowledge -- what is provable and falsifiable. It's much more difficult to prove the cup is not somewhere in any of our cupboards!

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[1] http://en.wikipedia.org/w/index.php?title=Francis_Bacon&oldid=384993703#

[2] http://en.wikipedia.org/w/index.php?title=Baconian_method&oldid=383845488#Idols_of_The_Mind -- "Idols of the Tribe... tendency to perceive more.. than truly exists,.. due to.. preconceived ideas about things."

[3] http://en.wikipedia.org/w/index.php?title=Francis_Bacon&oldid=225087816#Baconian_Philosophy, http://profiles.incredible-people.com/page/110/, http://www.statemaster.com/encyclopedia/Francis-Bacon-(philosopher).. In a later version of Wikipedia, "or her" was added obscuring the quote (http://en.wikipedia.org/w/index.php?title=Francis_Bacon&oldid=384993703#Philosophy_and_works).

[4] http://en.wikipedia.org/w/index.php?title=Inductive_reasoning&oldid=385159925

[5] http://en.wikipedia.org/w/index.php?title=Inductive_reasoning&oldid=385159925#Is_induction_reliable.3F

Even worse is the premise that there may not even be such a phenomenon as quintessence. That, along with any of the preceding premises, is no less of a false notion to start with, but how will we know if the wrong premise is taking us to the wrong conclusion? One might argue that this is where Inductive Reasoning gives way to "Suggestive Reasoning", so should we simply give up? Should we allow the lowest common denominator to prevail and seek to prove that quintessence, as something extraordinary, doesn't exist? Or should we look for another logic to contain all these possibilities, allowing us to at least choose a reasonable premise upon which to build a theory?

Unfortunately, in our search for quintessence, we have no idea which premise is best until we have woven a theory around it. That means that we must end up with more than one theory, each extrapolated from potentially frivolous premises, and we must seek a means by which we can choose between them. And this is what we explore next with "reductio ad absurdum"...

7 A New Rationale

Simon Singh in his book Fermat's Last Theorem[1] eloquently observed that Scientific Proof was the "poor relation" of Mathematical Proof. "The scientific theory can never be proved to the same absolute level of a mathematical theorem: it is merely considered highly likely based on the evidence available."

Singh goes on to say "For example, the search for the fundamental particles of matter involved each generation of physicists overturning or, at the very least, refining the theory of their predecessors." He goes on to cite how atoms were at first considered to be fundamental, and then when the electron was discovered, the "atom was no longer fundamental". He then charts the further "evolution" of the various theories of fundamental particles through to quarks and string theory.

Is it therefore reasonable to let us take a step back and reconsider the logical leadership we so readily defer to science? Perhaps we should take pure mathematics to be our leader? For example, would it be so trite to put to the science community the reality of statistics, being that there is almost a 100% mathematical probability that the universe has already seen hyper evolution? As we soon examine herein[2], that means there is potentially a 100% probability that a higher being has already come into existence.

Let us look at the other extreme of knowledge. If the highest form of proof be Mathematical Proof, the lowest form of proof with credibility is surely in the field of Medical Science. When we consider the field of psychology, psychoanalysis is one of the most imprecise sciences, a method that cannot effectively be put to test because it is a private exchange of words "between the analyst and what Freud as a doctor called the patient."[3] and yet this doesn't bar us from using it, investing in it as a medical practice, even allowing the results of it to be used as evidence in court in the context of diminished responsibility etc.

So knowledge can be attained even when the evidence is vague. And yet, when it comes to the biggest questions in life, where the evidence is also vague, why is it that we refrain from choosing which theory or premise fits best?

Now, it might be argued that at least medical science does allow us to observe and quantify results. For example, we know that hygiene leads to reduced infections in hospitals because statistics show there is a link. What about when the evidence is even less vague? What about when we're making assumptions about life after death, morality and ethics?

There has to be a form of logic that leads to knowledge even when evidence is scant, and there is. It's called philosophy. And yet even our use of philosophy must come into question...

> "Philosophy is not opposed to science, it behaves itself as if it were a science, and to a certain extent it makes use of the same methods; but it parts company with science, in that it clings to the illusion that it can produce a complete and coherent picture of the universe, though in fact that picture must needs fall to pieces with every new advance in our knowledge. Its methodological error lies in the fact that it over-estimates the epistemological value of our logical operations, and to a certain extent admits the validity of other sources of knowledge, such as intuition" -- Sigmund Freud, 1932 lecture on psychoanalysis as "a philosophy of life"[4].
>
> We will offer a rebuttal to Freud later[5] but this is a timely reminder that we should keep a perspective about any logical system of analysis that we use, including philosophy. For now, the main point has to be that we must use some tool to work with areas with little evidence. In the absence of any such tools, we would have to accept complete ignorance.

And so with philosophy as a guide, we might even question whether or not we need proof to be able to reason at all. Democritus showed us that the power of reason alone can lead us to great discoveries.

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[1] Fermat's Last Theorem, ISBN 1-85702-521-0, p21, 22, Simon Singh

[2] See 7.3 "Infinity & Hyper Evolution"

[3] The Penguin Freud Reader, ISBN 0-14118743-3, first page of introduction, Copyright acknowledged

[4] http://en.wikipedia.org/w/index.php?title=Sigmund_Freud&oldid=365729645#Philosophy

[5] See later passage 8, "In Conclusion", paragraph 4 -- rebuttal

Democritus was the ancient Greek philosopher around the time of Socrates and Plato who, without the slightest shred of evidence or proof, reasoned that all matter must consist of something he called atoms. Now, a few millenniums later, we have proven his theories to be fact with empirical evidence courtesy of the electron microscope. There could be no better illustration of the power of reason. Of course we could split hairs and mention that the word atom meant something indivisible then and we now know it is made up of smaller parts such as electrons and so on, but this hardly detracts from how reasoning alone brought such a valuable theory into existence. Indeed not long after that, Lucretius did consider the possibility of divisible atoms when he suggested "Suppose that atoms consist of three minimum parts, Or make them larger by adding a few more".[1]

Democritus was dealing with the unknown using nothing but reason. He did not have evidence to develop his theory, nor did he have access to evidence to prove his theory. Were he a strict advocate of scientific method, one wonders if such a theory might have ever emerged and resulted in all the advances we now have.

To be fair, there have also been any number of bizarre theories over the centuries ranging from flat earth theories to the demonic causes of headaches. As much as presumptions are detested, at the conception of theories some kind of presumption is essential without which one would not know where to start. What is needed is a means of factoring in the unknown by making reasonable and constructive presumptions without prejudicing the outcome and losing our way completely. What the scientific method needs is a means of factoring in this unknown in a manner that can allow for some initial assessment. For example, if a theory as profound as the big bang theory relies on the presumption that matter can bring itself into existence, and to then make the presumption that there is no possibility of metaphysical intervention in the process, it becomes what we can call a presumptive prejudice because it instils unfounded preconceptions.

Such preconceptions are particularly malevolent when they are sewn so deep in the process of logic that compounding theories can be built upon them until the origins become obscure and the original presumption can pervert the course of our entire understanding. It may well be that such a metaphysical intervention can be contained by a coherent scientific theory we are yet to discover, perhaps with supporting evidence profoundly beyond known physics, but while ever we allow underlying presumptions free rein, not only do we risk never finding the truth, we unfairly prejudice those who choose alternative theories (commonly derided as "beliefs") based on different presumptions.

With the aid of some mathematical discussions on infinities[2], and with the knowledge that medical science routinely uses reason where empirical evidence is in short supply, we will show how reason can be used to arrive at new and better truths.

7.1 Absurdity Reasoning

In the introduction to this chapter just prior, we mentioned the need to factor in the unknown without presumptive prejudice when conceiving theories. We need some procedurally disciplined means of determining whether or not a fallacy arises out of an ill-conceived theory built on poor presumptions. Discerning between well conceived and ill-conceived theories in fields where any outcome is short on evidence and difficult to prove or falsify raises a significant challenge to scientific method. We need a new method, one which is not purely evidence-based, one which can allow us to find the optimum presumption to replace unknowns.

Perhaps such an improved method is something we can dub Inverse Fallacy Reasoning. Such reasoning might be loosely based on *Abductive Reasoning*[3] and *Rationalism*[4], to allow us to select the best of multiple presumptive theories by submitting them to a variety of *Relevant Thought Experiment*s[1]. To rate highly when submitted to each Thought Experiment, a given presumptive theory must make the Thought Experiment arrive at a sensible conclusion that is consistent with what we observe in the real world. Alternatively, a presumptive theory achieves a low rating if the Thought Experiment challenges the theory by producing an absurdity in terms of being alien to what we observe in the real world. There is a potential third outcome which is simply that the Thought Experiment is found to be irrelevant.

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[1] end p49 http://books.google.co.uk/books?id=nPSznx8_XhwC&lpg=PA43&ots=eNOV5Wuekf&pg=PA57#v=onepage&q&f=false

[2] See also 7.3 "Infinity & Hyper Evolution"

[3] See "Philosophy Reference"

[4] Also See "Philosophy Reference"

Of course rather than inventing something new, we have simply borrowed from an existing logical tool called "Reductio ad absurdum", touched on earlier in the passage 1.6.1.1 "The Mechanics of the Experience-Moment" etc[2], which allows a proposition to be "disproven by following its implications to a logical but absurd consequence"[3]. We are ultimately interested in finding a truth rather than disproving things, and so we are using absurdity to steer us away from the least plausible proposition towards the most plausible proposition.

By submitting all the different theories to relevant thought experiments, we can attempt to determine which theory is least fallacious or most sensible. There are still question marks as to how we judge what is relevant, sensible, or absurd, but imposing this level of definition and discipline is better than allowing underlying presumptions free rein!

Scientists might prefer the pure intellectual integrity of scientific method, but surely those professionals having to matriculate amidst less well defined evidence, such as psychiatrists and physicians, would find this agreeable insofar as we can now test theories for sensibility by comparison to the "evidence" of what we observe in the real world. At least we have a method that allows us some means of quantifying entirely different theories, presumptions, propositions, and explanations.

Perhaps we should tip our hat to Kant who *"believed himself to be creating a compromise between the empiricists and the rationalists... Kant argues.. that using reason without applying it to experience will only lead to illusions"*[4]. Certainly compromise between evidential proof and pure reason is what we are trying to achieve -- although I suspect Kant would prefer to differ with our practical interpretation, so it might be wise to say we are merely inspired by his musings.

In simple terms, all we are doing is embarking on a process of elimination to find the most plausible theory in order that we can provide substance to the postulates we put forward. Of course "substance" may seem the poor cousin to "proof", but as we noted in the outset of this chapter, some proofs such as "scientific proof" are not really proof at all. We are further justified in making compromises in matters of "proof" as we will explain in the coming passages[5].

Let's look at an example of a classic split path thought experiment..

7.1.1 Brain Splitting

Here, we examine the presumptive theory that sapient self-aware beings can exist without any metaphysical input (without gods or anything else beyond our understanding) based on the presumption that consciousness is neurally bound. We will submit this theory to the Thought Experiment of Brain Splitting.

If we conceive a theory on the presumption that the brain generically includes quintessential consciousness as a byproduct of active neural networks, then if we subject this theory to a thought experiment whereby we successfully split the brain, we should create two quintessential consciousnesses each capable of perceiving and owning pleasure and pain.

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[1] http://en.wikipedia.org/w/index.php?title=Thought_experiment&oldid=361604800

[2] See also 1.3 "Is True Sentience Possible?"

[3] http://en.wikipedia.org/w/index.php?title=Reductio_ad_absurdum&oldid=351159041

[4] http://en.wikipedia.org/w/index.php?title=Immanuel_Kant&oldid=292490337

[5] See 7.1.2 "Stolen Proof" etc

Such a conclusion may sound natural enough (even if the experiment wasn't) but what if we make the brain that was split yours? Which half would then contain your ownership of pleasure and pain? Which path would your consciousness take? One? Both? Neither?

Well, "neither" is to assume the patient dies (and is thus irrelevant as we said the experiment will be successful). "One" is logical enough assuming there is a centre of consciousness in the brain upon which consciousness is attached. However, that centre has to be indivisible (otherwise what happens if we cut through the middle of it?) That we should be able to locate. If the brain broadly inherits consciousness as a function of all its activity (as is broadly the consensus of opinion currently), then we can rule out an indivisible centre and thus rule out "One" as an option. That just leaves us with "Both".

Here we see an absurdity emerging. We are following logic to the absurd conclusion that "you" would be aware of such undeniable sensations as pain in two different places at once. That being so, we can conclude a measure of doubt is applicable to the presumption that your consciousness is simply attached to your brain matter. Of course there could be variations to the conclusions including, for example, that "you" might go one way or the other at random and then the other half that once was you might simply create its own consciousness. However, if it creates its own consciousness that has the ability to perceive its own pain without you perceiving that pain, then it points more towards an incorporeal agent that has arrived in your other half rather than a neurally bound bed of consciousness that should be still yours.

On the other hand, let's consider the presumptive theory that sapient self-aware beings require a metaphysical dimension based on the presumption that quintessential consciousness is an incorporeal agent that is Not neurally bound. This is a fancy way of saying that you have a soul or spirit that is a product of some metaphysical input.

If we submit that theory to the same thought experiment of brain splitting, what conclusion does logic bring us to? Where would "you" go then?

Such a thought experiment is rendered largely irrelevant because as a singular incorporeal agent, "you" were not split and thus you can go one way or the other, or somewhere else altogether. Another incorporeal agent may begin to occupy the other half that was you. This conclusion might seem far-fetched (as is the experiment itself), but it is not absurd.

Saying it is irrelevant may seem an evasive answer, but as we're only splitting your brain and not splitting the incorporeal agent that is "you", it really is not relevant.

How do we conclude one is absurd and the other is not? Can we compare either result with what we observe in the real world? The answer is emphatically yes. As with the separation of co-joined twins, as with the removal of brain tissue by accident or surgery, as with the separation of brain halves during epileptic prevention surgery that we will examine soon at 7.2.4.2 "Brain Splitting Masterclass", as with the natural separation of the early cells in identical twins, as even with the separation of our existence from that of our parents in the womb.

Taking perhaps the most obvious of the above real world observations, at birth with identical twins, if "you" are one of those twins, you don't end up in both bodies. There's a lot of talk about identical twins having greater empathy approaching telepathy, but the research put into this dissertation did not reveal any evidence that any such twins are aware of each other's pain as vividly and immediately as they are aware of their own.

Indeed, when we reconsider all the preceding and following thought experiments, such as we did for example with supercomputers in 2.2.1.4 "Hammer House of Supercomputers", this is what we are doing -- raising questions to highlight the absurdity of theories that deny the possibility of the metaphysical.

And so we conclude that the theory with more merit is the theory that starts with the presumption that quintessential consciousness is an incorporeal agent that is Not neurally bound.

This is not to say that we are merely taking something we don't understand such as individual consciousness and then assigning it to something bigger that we don't understand such as the metaphysical, it is to say that we disagree with the presumption that a sapient self-aware being can possess consciousness without an independent incorporeal life force. It is to say that we conclude that quintessential consciousness cannot only be a byproduct of neural activity.

Of course this kind of 'where would *you* go' split path thought experiment has many variations in the philosophical world and we will come to this shortly.[1]

Even if we are only establishing that one presumption has at least as much merit as the other, it is a quantum leap from that which atheistic science would have us believe in areas of schooling, medical ethics, law, etc. And what if we choose other theories on the basis of the same presumption that quintessential consciousness is incorporeal? What creation/evolution theories are we left with then?

But are we going to settle for merely establishing that one presumption has at least as much merit as the other? First, it should be said that the use of thought experiment is but one device used to arrive at the conclusion of incorporeal quintessential consciousness. Beyond all the foregoing, we also have some mathematics to ponder[2]. However, we are some way from proving anything on the basis of this thought experiment alone. It is a nice device for adding gravity to the general force of an argument, in this case to establish the validity of the metaphysical, but many want more. Proof is a reasonable prerequisite where our deepest beliefs are concerned. And indeed, with the upcoming discussion on mathematics, a form of proof is on offer but before deciding exactly how much proof we need, it becomes important to examine the merit of proof itself...

7.1.2 Stolen Proof

If it were proven or subject to proof then you would have science, not faith. This is a maxim inspired by Søren Kierkegaard as we will see later in 8.1 "The Provocative Clue" and a variant on a theme quite popular around the Internet.

We would mostly prefer to have the evidence to convert the unknown to knowledge, but what if such evidence is not forthcoming? Does this mean our knowledge should be confined to only that which has proof? Does a lack of proof in one theory amount to proving the opposite theory?

Due to the lack of visible supernatural activity, non-theists commonly reason that there must be no deity. Where is the evidence of miracles they cry? Where is the evidence of the paranormal they cry? They seek proof.

This kind of thinking is a paradox -- something that is supernatural and then proven is no longer supernatural. There can be no middle ground between something which is proven and something which is not proven. As soon as it is explained, it becomes science!

Things which cannot be proven may one day become proven, transferring from the paranormal realm to the realm of scientifically explainable physics, but obviously the unexplained will remain unexplained until it is explained.

As soon as we reason away emotion, compassion, self-expression as evidence of nothing more than advanced social integration, then such evidence that might have belonged rightfully to "faith" becomes hijacked by "science". Thus, where such evidence of the validity of our greater inner existence is not ignored, it is simply given reason, explained away.

Some things are simply so self-evident that they should belong to science. Furthermore, sometimes "miracles" are reasonably assimilated into science when we are able to find explanations and use those explanations to modify the outcome, when we are able to build on those theories and extrapolate hypotheses for greater conclusions that in turn are tested and found to function as predicted. Thus, some near-metaphysical phenomena such as gravity, cosmology, magnetism, electricity, and radio waves all rightly find their way into the domain of science. With the exception to some extent of electricity, it's important to note just how little is actually understood about such phenomena. Yet rightly these mysteries remain in the domain of science.

On the other hand, we have some so-called "miracles" which are so nefarious, which so refuse any form of confirmation, that they will never be assimilated into science. For example, if we found that homoeopathy worked consistently, then it would become medicine[1] and rightly so. However, there is a middle ground -- "miracles" that we know exist that science attempts to assimilate. Those miracles are listed in our original Material Questions[2] and, if expressed as miracles, they read like this:

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[1] eg: 7.2 "Transporter Thought Experiments"

[2] See also 7.3 "Infinity & Hyper Evolution"

- Something, ie all the material and energy in the universe, appeared out of nothing
- Inanimate matter willed itself away from chaotic entropy
- Inanimate matter "awoke"
- Inanimate matter became aware of the difference between good and evil, became able to judge others (and even judge reality itself) and developed a yearning for life and understanding.

Of course it doesn't help to stigmatise the unknown with titles such as "miracles" or supernatural. We are much better off referring to these as the "unexplained" or preternatural[3]. Regardless of how we refer to the unknown, ignoring it is not an option. Scientific theory which circumvents the impossibility of sentience, quintessence and spontaneous creation would do well to embrace the preternatural rather than ignoring it.

It is surely appropriate that some discoveries have been and should be properly absorbed into the scientific realm completely debunking former thoughts of supernatural intervention, for example in bacterial, viral and psychological illnesses. However, even these resounding defeats of mysticism should not be taken as proof that all things can so easily be explained. Magnetism is quantified but far from explained, as is gravity, as is the source of matter and energy and so on.

Looking back at our search for theories without flawed assumptions, where a given presumptive theory is proven true, and another equal and opposite presumptive theory remains unproven, then it is reasonable to side with the proven. However, where neither theory is proven true, as is the situation we have between creationism and evolutionism that we have shown throughout *Awoken Evolution*, it does not follow that some kind of default proof should to go to the side most interested in seeking proof. That is to say, the lack of desire to prove the supernatural does not prove that the supernatural does not exist.

And why is there less interest in seeking proof for the supernatural? To prove that something is supernatural would prove that the very same "something" is not supernatural. One could satisfy oneself by attempting to prove something is unexplained and therefore supernatural but that is very difficult as it is "proving a negative". Nonetheless, that is more or less what we are doing in this dissertation.

This "integral lack of proof" is a situation that is unique to the problem of the supernatural, but it does not mean the supernatural does not exist and it certainly doesn't mean we can ignore the unexplained. Conceiving of something supernatural is a way of attempting to deal with the unexplained without simply ignoring it. Proving it is a paradoxical request in this unique case. Proof is kryptonite to that metaphysical realm just beyond reach.

But there is yet an even more convincing and engaging reason why the value of proof should be questioned...

7.1.3 The Metaphysical Confidentiality Clause

In the search for an explanation for the unknown, we are of course looking at the possibility of some kind of creation. Naturally, this invokes the need for a creator, a super being. For the sake of argument, this may be a biblical deity or it may simply be a conscious intelligence preceding and far exceeding our own. Either way, when we start to explore its motives, we find herein lies a powerful paradox.

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[1] Quoted from John Diamond as expounded in Richard Dawkins' book A Devil's Chaplain (ISBN 0618335404), in the essay Snake Oil.

[2] See 1.5 "Four Questions"

[3] "..that which appears outside or beyond (Latin præter) the natural. In contrast to the supernatural, preternatural phenomena are presumed to have rational explanations as yet unknown"
http://en.wikipedia.org/w/index.php?title=Preternatural&oldid=395020393

First, we'll just remind ourselves that *Awoken Evolution* has been avoiding advocating any specific *creation belief* because we simply want to establish the credibility for belief overall. Strangely, by advocating belief in any way, we dramatically undermine that aspiration. However, to allow the point in this passage to be made, we will consider a creation belief and the consequences of such a belief being proven to be true. The reason for doing this is to show a very good reason why that belief can never be proven to be true in our lifetimes.

We have to consider the reason why such a metaphysical entity would interfere with our evolutionary railroad journey of cause and effect (for those that believe in a limited version of creationism), or a reason why such an entity would engineer our reality and physics from scratch (for those that believe creationism as a totality). We could speculate a lot of reasons -- the drone of a billion millenniums of omnipotence would become oblivion, an infinitely monotonous humdrum to be avoided at all costs -- perhaps, but it doesn't actually matter as we will see. Other reasons might include the need to explore the difference between good and evil, to play out an essential battle between good and evil. Again, perhaps, but it doesn't actually matter. Maybe such a metaphysical entity simply wanted to "do something different" and once again, this is irrelevant.

The precise reason is irrelevant because regardless of whether it's reason for creation is among these reasons, for other reasons, or simply only relief from oblivion, here is the point -- such a creation would be rendered entirely pointless and defeated were the origins and details of such a creation laid bare.

Whenever we wish to absorb ourselves in a fantasy, perhaps indulging ourselves in a film, the director goes to great trouble to suspend disbelief. We don't want to shatter the illusion with outside interference, bad editing, interruptions, poor acting.

If our hypothetical deity is engaged in much more serious matters, such as the fight between good and evil as mentioned, it is even more important "not to break the spell". Consider what would happen if the details of the *Genesis creation narrative* were revealed in unequivocal detail... we would all be rendered unthinking followers, monks and nuns. Procrastinating over choice would be pointless -- we would know what we had to do from there on and that's all we would or could do.

Those of a religious persuasion might consider other implications of this logic -- if prayers were answered and God was revealed, there would be no more need for judgement, wisdom, motivation, purpose -- there would only be slavish devotion to that which was obviously in our best interests. Compassion becomes mechanical, "good" would become unthinking logic, love would be extorted, selfless acts would become selfish.

So where does that leave us? Unfortunately, this is to state that a deity hypothesis is unprovable because it hides its own proof. This is of course unfortunate as it is an unfalsifiable truth putting itself outside of any kind of scientific process. However, the point remains that the very act of attempting to prove or disprove a claim of metaphysical intervention is an untenable act of logic because it makes the presumption that the elusive metaphysical entity to be disproven was an accident instead of intentional. Ie: an intentional metaphysical occurrence is declaring itself impossible to prove or disprove from the outset, whilst an unintentional metaphysical occurrence is a byproduct of the environment and circumstances and is disproven from the outset because it wasn't truly metaphysical in the first place.

Philosophically speaking, the metaphysical has a natural cast iron confidentiality clause!

Substance in belief is thus untenable. Anything beyond reality that should be beyond reality will always remain out of reach. It is thus an assured paradox that evidence of a *super nature* will never be found.

For the record, it should be stated again that this narrative is not about trying to prove God, but merely to give logical credibility to the thinking man (non-gender specific) who doubts the sterility of atheistic science and/or who wishes to explore creationism without ridicule. The conclusion you come to could be anything, but it should be an informed conclusion.

7.2 Transporter Thought Experiments

Now that we have considered the value of proof in matters of exploring any creation narrative, it's time to review the kind of thought experiment that we introduced prior, such as in the passage 2.2.1.4 "Hammer House of Supercomputers", with due consideration to the reasoning we explored in the passage 7.1 "Absurdity Reasoning".

As we started to explain in the passage 7.1.1 "Brain Splitting", that was one of many philosophical variants on the Split Path theme. For example, in that earlier passage about supercomputers, we looked at how Simon Blackburn in his book Think[1] includes a passage titled Scrambling the Soul in the 4th chapter.

From here on we look at several variants together aiming to provoke thought about the nature of consciousness. As this thought experiment mutate into its various variations, it will be spread across more than one passage and so this first passage is dedicated to merely preparing the ground.

Herein, we will return to attempting to prove or disprove that quintessence is neurally bound by attempting to isolate the location of the seat of quintessential consciousness (or the soul). If this attempt leads to an absurdity or we simply discover and prove we cannot locate it at all, then we are moving ever closer to showing that consciousness, or at least a component of it, is metaphysical.

The type of thought experiments we are interested in includes examining what happens to consciousness or more specifically to our inner quintessential conscious awareness in a number of normally impossible scenarios involving physical change.

Perhaps it should be noted that we are going to abandon any particular strict format -- we're not going to examine which part of what is presumption and theory nor studiously submit different conclusions to the absurdity test -- we'll leave that to the academics. Instead, we are simply going to provoke thought by throwing these various thought experiments on the table and ask the reader to think about them in the spirit of Absurdity Reasoning as introduced earlier.

And now for the preparation. As we are about to explore ownership of quintessential consciousness, we need to prepare the foundations about where consciousness "should be" in a non-theist rationalised existence and how consciousness and memories interact.

We should first remind ourselves of the much earlier passage, 3.2 "We Are What We Eat", and consider the possibility that we imbue everything we eat with our own consciousness, so fruit, meat, bread and cheese etc are all capable of consciousness if appropriately processed. We must also remind ourselves that the consciousness we seek to examine is *quintessential conscious awareness* insofar as a means *who we are*, what it is to exist and be that existence which resides within each of us as the experiencer of our body's feelings and sensations.

Continuing this preparation, we also need to consider the association between memories and quintessential conscious awareness. It is oft said that "we are the sum of our memories". Indeed, memories play a huge part in defining us. Further, it might be argued that awareness is even defined by the act of creating memories.

> When we are born, we have no memories but we start creating them immediately. It is not clear when we first gain human consciousness. Certainly we are sentient beings even before we leave the womb in that we are capable of sensing pain and reacting to it but when do we become fully conscious, capable of knowing pain? Perhaps our consciousness drifts in and out, becoming more intense as we mature and accrue more memories.
>
> We each awake with our memories. That is clearly something that divides us -- we each have different memories.
>
> When we actually die, those memories are gone. However, if somebody else woke up with identical memories, would they be in fact us? Let's look at that again -- when I die, my memories

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[1] Think: A Compelling Introduction to Philosophy. (1999) ISBN 0-19-210024-6 and ISBN 0-19-969087-1. http://en.wikipedia.org/wiki/Simon_Blackburn

are gone. If you woke up with my memories (and not yours), who would you be? You would probably be completely unaware you were not me.

This conundrum is even more compelling when looked at the other way. If I died and then I (my quintessence) found myself awoken in another being, perhaps a child, then due to the completely different environment and set of memories I found myself in, I would be completely unaware that such a transition had occurred. I would have no way of "knowing".

> Is it purely memories that divide us? Are we not otherwise the same substance -- cells born of matter that is common to all living and even dead things? As an aside, this is perhaps the main basis for the theory of universal consciousness. We are essentially the same thing as each other separated and individualised only by memories. *One Universal Consciousness* is explored further in 8.3.1 "Empirical Epiphany".
>
> As a further aside, for those that might wish to interject and say that the creation of memories IS consciousness, we should add the cautionary point that this seems highly unlikely because this would raise questions about how the formation of memories creates existence, experience, pain and pleasure. It would also be to suppose memory loss would negate consciousness. That would be to invite various absurdities including Alzheimer's sufferers being unable to suffer, drowning victims not suffering, and the absurdity that a person could be operated on without anaesthesia provided the persons memory of that event was erased afterwards. Ultimately, it would be to suppose that all the suffering of the past could be ignored because death removes all memories. To conclude this aside, we might consider that memories define and individualise us but it would be a mistake to presume that quintessential conscious awareness is simply the act of creating memories.

In short, memories may be that which defines us. This is best illustrated by asking oneself the question -- if you woke up with my memories (and not yours), who would you be? You or me? This could be considered to be a small thought experiment in itself and indeed does set the tone for the more elaborate thought experiments to follow.

Of course the point of all this preparation is to establish the criteria for neurally bound quintessential conscious awareness. Now to consider whether or not we should be able to move it about or transport it...

7.2.1 Particle Transporters

Having completed the foregoing preparation, this is where we turn to our first thought experiment to explore this memory/ownership conundrum by considering a science fiction transporter. The perspective of our individual conscious awareness is presumed to attach itself to our atoms and memories. However, in a particle transporter, our atoms would be lost, effectively made dead, but our thoughts and memories *should* be able to recommence in another identical assembly comprised of alternative but identical atoms.

For the purpose of this thought experiment, we might imagine the beaming particle transporter envisaged in the fictional Star Trek television series or the particle transporter envisaged in The Fly.[1] Let's assume for the sake of argument that the transportation was 100% successful.

From this we can ask a number of questions:

- Would it be the same conscious awareness that emerges?
    - If I were the one in that particle transporter, would "`I`" be still "me" on the other side?
        - How would "`I`" know?
        - What if I was duplicated or triplicated? Where would my consciousness be then?
    - If the transportation wasn't perfect, but induced no more change to the brain than occurs during inebriation, and the preceding version of myself vanished, would it mean my original

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[1] http://en.wikipedia.org/w/index.php?title=The_Fly_(George_Langelaan)&oldid=407005311

> quintessential consciousness "died" and the resulting transported individual acquired a new quintessential consciousness?

Such a thought experiment is not completely incredible when one considers identical twins. The two brains are more or less identical or at least no different to the changes that occur within one's own brain, and we know that the same quintessential conscious awareness returns to our own brain even though it changes, degrades as it ages, absorbs injuries, is affected by drugs and alcohol, etc.

If we were to postulate that consciousness can be described as an attribute of the physics occurring within the brain, then all manner of strange conclusions can be reached. Either:

- Consciousness doesn't exist and we are all zombies -- this is disproven by the knowledge of our own quintessential awareness.
- Consciousness can replicate itself on anything that is identical or near identical -- which means that consciousness might be able to jump around between similar beings.
- There is only one consciousness which is shared amongst us all.

Now, if we were to postulate that consciousness is a metaphysical incorporeal singularity, then whilst it is admitted that "all bets are off" meaning that anything is possible, it also means that the more consistent and logical outcomes that we are all familiar with as a product of being alive are now possible. For example, each of any identical twins gets to keep their own quintessential conscious awareness or soul, consciousness cannot float about, and the consciousness we go to sleep with and wake up with is always the same.

Do we expose a fallacy by extrapolating the proposition of consciousness being neurally bound through to a logical but absurd consequence?? Fallacy or Sense?

In the next passage, we look at another more practical thought experiment...

7.2.2 The Pineal Gland

If the use of science fiction "transporters" proves to be too challenging as a thought experiment, let's look at something much closer to home.

The pineal gland is a small gland in the base of the brain that produces melatonin, a hormone that affects the control of sleep and wakefulness[1].

Descartes considered the pineal gland to be the seat of consciousness, or to quote specifically, he called it the "seat of the soul"[2]. Perhaps melatonin is the missing ingredient that captures our individual conscious perspective. As first mentioned in 1.3 "Is True Sentience Possible?", perhaps we can transfer consciousness by extracting melatonin and transferring it to another individual.

We don't have to consider whether or not this is practically possible -- we should simply note that if consciousness is a neurally bound phenomenon, then it must be associated with something. We might just as easily look at other chemicals and gland's or perhaps the conglomeration of all of them. However, melatonin is the easiest to imagine as it is extractable and transferable.

Then what of the questions in the preceding passage 7.2 "Transporter Thought Experiments"?

Would we or could we find ourselves awoken inside another human being? Would we be able to discern whether or not we were in another being or would be so completely immersed in the world of the second being that we wouldn't know we were not that being? Could the melatonin from a donor be injected into more than one individual (perhaps comatose individuals) and could the conscious experiencer from that donor find itself in multiple individuals?

What if identical twins share the exact same genetic composition of this melatonin and everything else?

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[1] http://en.wikipedia.org/w/index.php?title=Pineal_gland&oldid=354602994

[2] http://en.wikipedia.org/w/index.php?title=Pineal_gland&oldid=354602994#Metaphysics_and_philosophy

As also mentioned in 1.3 "Is True Sentience Possible?", what we observe in ourselves is that quintessential consciousness is a singularity, an individual perspective which is indivisible, constant and profoundly real. This observation does not sit well with the conclusion that it might somehow be physically transferable or even shareable.

Once again, if we were to go with the *presumptive theory* that consciousness is neurally bound, ie: an attribute of the physics occurring within the brain, we reach a miasma of bizarre cooked up conclusions. If we go back to the proposition that consciousness is incorporeal, those conclusions are more in tune with "common sense" where common sense is the observation of the general totality of the reality we find ourselves in.

Fallacy or Sense?

7.2.3 The Queen Cluster theory

Continuing the theme started in 7.2 "Transporter Thought Experiments" of locating the seat of quintessential consciousness (or the soul), let's consider a more down-to-earth theory regarding the "centre-of-self".

Maybe the "centre-of-self" is just in that original cell we all start from -- the egg that is first fertilised in the womb at conception. This cell divides and the results divide etc, but maybe in that original division some record is kept of the primary cell. For example, we know that certain cells do keep a log of divisions. All sentient activity may be occurring as a positive or negative experience relative to this one cell. Like a queen bee in a hive, it is the centre of all our activity, "the experiencer".

Of course it might be a small cluster of cells, perhaps the long-lived cerebral cortex cells. Regardless, the principle is that there simply is a location within the brain that is "me" or "you".

This is the crux of the "corporeal" position (the non-metaphysical, non-theist or scientifically acceptable neurally bound position). It makes it easier to answer the *'I'* questions such as "where do I come from", "why am I stuck in this body" etc.

This was looked at first in the earlier passage 1.6.1 "Neurally Bound Consciousness". In that passage, we concluded that the experiencer was most likely to be incorporeal. In particular, we determined that it was highly unlikely to be anywhere that might float about to another being, so broadly that rules out memories and dataflow. That did leave us with the seat of consciousness possibly being in the long-lived cells in our brains. This is the cell cluster that we examine here.

However, this hypothesis doesn't hold much water if this cluster could be split up because then we would end up with absurdities about split souls. This therefore demands something slightly more fundamental such as the most basic of matter, molecules or atoms.

This also fits quite well with the brain-transplant thought-experiment[1] in that if we could isolate the Queen Cluster, we could theoretically move it with the predicted results discussed prior being logically expected.

What does this tell us about the absurdities surrounding locating the seat of quintessential consciousness? If we were to transplant such a queen cluster, would it know it had been moved? Could we cryogenically freeze it and inject it into an embryo, thus ensuring our immortality? What if it were injected into an animal?

Fallacy or Sense?

7.2.4 Working With What We've Got

In this and the next two passages, we are going to take something of a journey into the macabre by looking at hypothetical brain activity during transplants as another thought experiment and then review our findings against actual examples of surgical brain splitting.

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[1] See also 7.2 "Transporter Thought Experiments"

As mentioned in the prior passage 7.2 "Transporter Thought Experiments", we are not going to adhere to any particularly strict thought experiment format but rather just invite the reader to think about facts and hypotheses in the spirit of Absurdity Reasoning.

Before we commence, let's build on the descriptions and definitions we started in prior passages and take a quick review of what we hold to be true about the basics of waking consciousness. Earlier in 3.1.2 "Consciousness Defined", we attempted to describe consciousness. We summarised this as the "life force of awoken consciousness" as a state-of-being that validates sensations and experiences including pleasure and pain but especially those experiences which are vivid and undeniable such as panic, dread, pain. For the following thought experiment, it might now be useful to add to this summary definition with some broader observations on consciousness.

- Consciousness is awoken sometime after we are born
- Consciousness freezes and restarts when we sleep and wake
- The difference between being asleep and awake is not always clear cut. Sometimes when we sleep, we become conscious of dreams, and other times we think we are awake when we are still asleep:
    - During sleep, a degree of real-experiencing consciousness can be experienced and later recollected by way of dreams. This state of consciousness appears to allow us to experience a wide range of sensations and emotions but notably not pain (hence the anecdotal phrase "I had to pinch myself to check I was not asleep").
    - Conversely, During sleep, a degree of virtual consciousness can be visible without there being true consciousness (a state of mind where consciousness is apparent to a third party observer but which is not actually experienced by the subject) as exhibited by sleepwalking, and mind disorders or "out of character behaviour" (eg: schizophrenic violence), or simply REM sleep.
- Other than sleep, consciousness can also lie dormant when a patient is in a coma or unconscious for any length of time.
- It would seem that we can profoundly lose consciousness (for example, when a patient's blood temperature is dramatically reduced during a difficult operation when the heart is stopped), but provided the brain's memory and processing facilities are still intact, consciousness can be generally restarted.
    - Conversely, perhaps through some medical condition such as "sleepy sickness",[1] sometimes consciousness is not awoken in an apparently otherwise fit person where a kind of reversible zombification can occur.
    - Arguably, consciousness can even be seen to be occasionally absent in a completely fit person -- when we are drunk, tired, even during mundane but mind consuming tasks such as factory work or puzzle solving.
- Consciousness can be reawakened in individuals who have had profound memory loss or brain damage.
    - Not only does this demonstrate the ability for consciousness to take a lengthy absence during prolonged coma etc, it demonstrates how consciousness can return to a changed brain.
- Generally speaking, consciousness is either on or off.
    - People drift in and out of consciousness but there is no in-between state. Whilst consciousness can fade, a minimum state of consciousness as defined by the ability to feel pain is very different to the adjacent state of unconsciousness as defined by the inability to

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[1] Eg: "sleepy sickness" http://en.wikipedia.org/w/index.php?title=Encephalitis_lethargica&oldid=361685956, as dramatised in the film "Awakenings", http://en.wikipedia.org/w/index.php?title=Awakenings&oldid=361432090

    feel pain (albeit pain often awakens a person, but if that person doesn't awaken, the pain is not felt).

    - This drifting in and out of consciousness is perhaps quite apparent in an impaired person, such as a person with Alzheimer's or other brain impairment. We can have some idea of what it's like to be such a person by simply being excessively inebriated -- a thankfully reversible condition in normal people.

- Experiences can become detached -- eg: consciousness that has been reasonably proven to exist by the vivid display of pain in a dying subject is then entirely lost at the point of death. This is challenging to the extent that to say such experience was utterly neurally bound is to conclude that the irreversible loss of consciousness invalidates the preceding experience. We dealt with this in the prior passage 7.2 "Transporter Thought Experiments" in the latter preparation paragraphs[1] therein.

Looking at consciousness in the above light, working with what we already know about it, we hardly need to indulge in Thought Experiments to get a sense of how bizarre the phenomenon of quintessential conscious awareness is.

From these points it is reasonable to conclude:

- The life force of awoken consciousness requires a set of memories and a processing facility.
- Awoken consciousness can even exist, or be rekindled, where memories are minimal, therefore only a processing facility is needed (memory is not crucial).
- If a reasonable measure of consciousness is the ability to experience pain and be unable to escape it, then even a small processing facility will support awoken consciousness.
    - Examples: People with diminished capacity almost certainly suffer pain, and even small animals and insects exhibit intense behavioural patterns synonymous with panic, dread, pain.

Is it therefore reasonable to conclude that Any processing facility can harbour awoken consciousness?

- If we sufficiently understood the processing mechanisms required to harbour consciousness, we could reconstruct those conditions in a recently deceased person, recover his/her memories, and recreate a living person. The consciousness would not know the difference.
    - This is surely what happens in a brain-damaged person who has their brain sufficiently repaired to regain consciousness and is then re-taught their past.
        - From this, we must conclude that consciousness can lie dormant almost eternally, only limited by our ability to repair brains after lengthy periods.
        - This is of course where we get our intuitive belief in ghosts and the afterlife. If medicine can revive a person whose processing facility has stopped and whose memories are damaged, then we know consciousness for that person remained somewhere.
    - From this, we could extrapolate the principle to achieve the same effect by reconstructing the brain's processing facilities in a computer, and entering a person's memories into that computer. However, we struggle to imagine how this latter computerised version could be awoken and made to feel life validating pain.

This is a useful roundup of quintessential consciousness in that it challenges us to reassess what it is to be awake and alive. It also allows us to take our thought experiments to the next level by providing a framework of observations and expectations that we can keep in mind as a basis for what we can consider normal or absurd.

And now for the promised macabre thought experiment..

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[1] See earlier passage 7.2, "Transporter Thought Experiments", paragraph 15

7.2.4.1 Brain Transplant

Now that we have extensively laid the groundwork for how consciousness behaves in reality, explained in terms of non-metaphysical rationalisation, we can test the validity of such rationalisation with another thought experiment to see to what extent it adds up or is absurd. This passage is not for the squeamish..

As a brain functions well enough to harbour consciousness with parts of it missing, we could theoretically transplant small parts of the brain, and experiment until we find and transplant that part which harbours consciousness and nothing else.

What if the first person was a willing participant (perhaps a wealthy person wanting to escape a dying body for example) wanting to transfer their consciousness into a healthier recipient (perhaps a profoundly unconscious but otherwise fit person)?

Now of course we have to presume some kind of medical advance that allows us to stitch nerves and dendrites back together, perhaps by coating surfaces with stem cells, but such medical advances can be seen to be with us now given the work that has been done with stem cells to repair spinal cord damage.

Of course the originator of the consciousness might have opted for a brain transplant if these things were possible but what if the originator was suffering from Alzheimer's or brain cancer?

Keep in mind that the quintessential "self" is merely the seat of experiences and sensations such as pleasure and pain.

What would happen?

- Either it would be impossible or:
- The transferred consciousness will wake up in the latter person with the latter person's different memories.

  The latter person would regain consciousness without knowing anything had changed. Even the new embedded "self" couldn't know because the framework of memories in which that new consciousness found itself residing would not have any access to the memory of the previous self. The embedded self from the first person would awaken, experience sensations such as pleasure and pain, but not know it was not the consciousness of the recipient.

  However, if we told the recipient his consciousness was from somewhere else, the outcome would be quite different. Even the slightest amount of memory transfer (by simply telling the recipient that they are actually the consciousness of someone else) would, if it were believed, allow that consciousness to realise such a shift had occurred.

A non-theist individual analysing such a result might note you could never prove that the consciousness was actually transferred!

This being so, it might be concluded that there is no conscious seat, and that would bear out the oft expressed theory that consciousness is the illusion of cascading introspection.[1] However, as we have repeatedly said throughout, pain is not an illusion and if consciousness be the final recipient of such sensations, then the situation is not so clear cut. To test this, let's add a twist -- what if the first person knew that the recipient was suffering an extremely painful disease that any newly transplanted consciousness could not escape? Then whether or not transfer was possible would matter very much to the first person (and he or she would almost certainly not be willing to proceed). No third person could prove that a transfer had taken place, but the possibility would matter very much if you are the first person about to be made to wake up in a body full of pain.

In another aside, this also builds towards the basis for the theory of universal consciousness. The fact that you could never prove that the consciousness was actually transferred might suggest that it was all same consciousness in the first place. *One Universal Consciousness* is explored later in 8.3.1 "Empirical Epiphany".

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[1] See also 5.1.4.1 "The Spectator Illusion"

Of course various thought experiments have been aired by mainstream philosophers exploring the same principles. For example in the earlier passage 2.2.1.4 "Hammer House of Supercomputers" where we looked at how Simon Blackburn in his book Think: A Compelling Introduction to Philosophy (1999) includes a passage titled Scrambling the Soul.

In the above, in search of a particularly illuminating outcome, perhaps we turned to an overly macabre version of such thought experiments but despite this, we know they are all theoretically plausible. That is to say, they aren't logically fallacious (not flawed as an instrument of logic[1]), so we can still submit them to the aforementioned *Inverse Fallacy Reasoning*[2] rationale.

Once again, the reader has to decide whether the resulting indeterminate nature of neurally bound consciousness points towards an absurdity or not. Then the reader must compare this to incorporeal consciousness. Does consciousness as a metaphysical incorporeal singularity (eg: a "soul"), better fit the evidence? Ie: Is it not considerably less absurd to conclude the seat of our experiences and sensations including pleasure and pain is an incorporeal singularity?

7.2.4.2 Brain Splitting Masterclass

Just when we thought it was safe to leave these macabre thought experiments behind, we must take an aside at this point to acknowledge recent observations on surgical brain splitting. This gives us a remarkable insight into what would otherwise be only ever confined to thought experiment.

In a recent BBC 2011 documentary examining the remarkable observations of splitting the brain[3] (in this case due to essential destructive surgery to suppress epilepsy), it was noted that observations could be interpreted as a patient developing a second consciousness. This was visible in a somewhat disturbing video sequence demonstrating Alien Hand Syndrome[4] where the patient "woke up after an operation to control her epilepsy to find she had no control of her left hand".[5] Indeed, the so-called "alien hand" started to mildly attack her with repeated aimless slapping of the face.

Because the documentary infers that a second consciousness can exhibit itself[6] after a patient has had his/her brain split with surgical intervention separating the two hemispheres of the brain to suppress epilepsy, the initial conclusion was that this conflicts with the foregoing tracts about brain transplants and soul scrambling.

Furthermore, there was another woman featuring in the documentary who identified numbers by feel with one side of the brain but was unable to tell us what that number was with the other side of the brain.

If a brain can be split and develop two different quintessential consciousness's, this does indeed raise the validity of neurally bound consciousness -- if it were true.

And that is where our interpretations significantly part company. It's the interpretation of this author that the secondary consciousness mentioned in this documentary is a rather large exaggeration.

- It is abundantly clear that in these two examples shown in the documentary that there is one consciousness which is trying to bring a fractured computer back together. However, the so-called second consciousness is clearly no more conscious than in the Independent workings of any automated part of the brain including the cerebellum.
- The alien hand syndrome was evidence of the isolated lobe running out of control but it certainly wasn't evidence of an independent consciousness.

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[1] See Fallacy http://en.wikipedia.org/w/index.php?title=Fallacy&oldid=225805758 -- "A fallacy is a component of an argument which, being demonstrably flawed in its logic or form, renders the argument invalid in whole"

[2] See also 7.1 "Absurdity Reasoning"

[3] BBC documentary titled 'The Brain - A Secret History - Broken Brains', Friday 21 Jan 2011

[4] http://en.wikipedia.org/w/index.php?title=Alien_hand_syndrome&oldid=411011113

[5] http://www.bbc.co.uk/news/uk-12225166 -- "Alien Hand Syndrome 'makes me look possessed' -- Karen Byrne woke up after an operation to control her epilepsy to find she had no control of her left hand.." -- (c) BBC, 20 January 2011

[6] subtitle at 00:34:38 in the prior cited documentary: "And that is because these patients would, in time, reveal something that to me is truly astonishing. -- The two halves of our brain contain a sort of separate consciousness."

To this extent, this actually verifies the thought experiments prior in this book. Crucially, there is one consciousness which presents itself to the observer, one consciousness which takes on instructions and is clearly in command, one consciousness to which all parts of the brain report.

If anything is given towards the non-metaphysical argument, it is simply that the centre of consciousness is in the left-hand lobe of speech and communication. If the right hand lobe had an independent consciousness, it would be dramatically more obvious than it was. It is quite possible that a second consciousness could descend upon the isolated lobe, and it may even be that the alien hand slapping was the emergence of a secondary consciousness, but apart from trying to inappropriately stub out cigarettes and unbutton things as was demonstrated in the documentary, it was no closer to being conscious than a remote-controlled toy that had gone out of communication range.

- Ie: if the brain really had been split in two, and if we were only communicating with the left hand lobe because it was the only side that communicates, it was painfully obvious that it was massively more conscious than the right lobe which was in charge of spatial reasoning etc.
- Indeed, one might unkindly note that the alien left-hand was only exhibiting similar behaviour to a headless chicken. For those who are less aware of this macabre comparison, fowls are often beheaded for the dinner table and if the decapitated body is accidentally let go, it certainly does attempt to fly and run.

No, there is no more consciousness in this alien hand then there is in my own hand which frequently assumes a life of its own when it fidgets and especially when it comes to putting down my glasses and keys! Do we presume some kind of independent consciousness therein? Of course not.

Consciousness is clearly a singularity which the unfortunate individuals in the documentary tend to confirm more than they deny.

7.2.5 Consciousness Does Not Compute?

So what have thought experiments brought us? The results could be summarised as this...

Part 1, Broad:

If we presume on the basis of good evidence that consciousness is a broad product of brain activity, in that it requires functioning processing computational matter, we should be able to halve the computational matter of the brain, restart activity, and end up with two consciousness's. If "you" cannot conceive of how your consciousness could be split in two, then it is reasonable to assume one cannot split consciousness at the same time as splitting a brain. However, we know we can split the brain (brain surgery etc) and thus consciousness should be split as well.

Throughout the experiments, we have laboured on the importance of tying consciousness to sensations, particularly that of pain. When we are conscious, we can feel pain very vividly. When we consider what would happen to "you" during a brain splitting operation, the analyser/reader must put oneself in the position that it is oneself's own sensations, especially that of pain, that one cannot imagine being vividly experienced in two different places at once.

So if we reason that splitting consciousness is an absurdity and can't be done, then we are left with consciousness going one way or the other.

Part 2, Pinpoint:

That means we should be able to pinpoint the seat of consciousness, such as we do in the passage 7.2.3 "The Queen Cluster theory", to determine which way it goes.

However, we can't pinpoint the seat of consciousness. Even if we could, we'd have to ask the question about what would happen if we split that point. We could accept that such a point would be so small, it could not be split. However, that would imply we would be able to find it (and even transplant it) but with all our knowledge of neurology and advances of neurosurgery, no such point has been defined. As an aside, we cannot rule out that such a point may yet be found, and we will come back to that within a few words.

So if "your" consciousness is not simply the broad sum of functioning processing matter, and if it is not some pinpoint within you, then what is it?

We should now broaden the summary to include the results of the computer thought experiments we introduced earlier. Not only could we not pinpoint, we could not define nor test for consciousness, especially in terms of the perception of pain, within a computer system, no matter how complex the computer was.

So now that we have a degree of certainty that consciousness is above the laws of physics of silicon-based computational matter, to recall our aside just prior, even if neurologists are able to pinpoint the seat of consciousness within the brain, a whole new branch of questions would open up about how it somehow functioned outside of the laws of physics and logic regarding computational matter.

We would have to understand how this pinpoint could compute differently to any other computational matter to give rise to consciousness. Computation by any kind of matter is always based on the same principles, whether it be analog or digital. Computational-based consciousness would depend on some kind of computational principle that we have not as yet even conceived of.

Even worse, the pinpoint of consciousness has to be small or otherwise we go back to seeing the seat of consciousness as a broad product of a large part of a functioning processing brain, and we should be able to split it, and we've already ruled that out as absurd. So a very small pinpoint that is indivisible must be envisaged, but then we have a new problem. The smaller this pinpoint becomes, the less capable of computational properties it would be. And if such a pinpoint were not computational and yet somehow had consciousness, the challenges to understanding become even more profound, to the point of admitting metaphysical properties.

So if we now reason that pinpointing consciousness is an absurdity too, what are we left with?

Grand Summary:

So in grand summary, if "your" consciousness is not the broad sum of functioning computational matter (because it is absurd to contemplate consciousness being splittable), and if your consciousness cannot be pinpointed within you (because consciousness must rely on computation and it is absurd to imagine a pinpoint can compute to create consciousness), then what (and where) is consciousness?

Indeed, one could be gleefully fatuous and conclude "consciousness does not compute" because apart from being a great soundbite, by the process of elimination, that is one of the few logical conclusions we have left.

Matter having regard for itself is a theme of Universal Consciousness which results from noting literally that "consciousness does not compute". We will come back to that later.

And this conclusion is without taking into account unpredictable emergence and infinities as we will come to next. following a quick roundup of quintessence in this light...

7.2.6 Quintessence, Sensible or Absurd?

So here we are. We've looked at the classic philosophical split path thought experiment in much detail, and now it is time to start to apply Absurdity Reasoning to the big picture.

In this passage, we're not so concerned about Thought Experiments and looking for absurdities in the minutiae of presumptions and how they give rise to Presumptive Theories but we're going to leap straight into examining the sensibilities versus absurdities of the question that we pose in *Awoken Evolution* -- is consciousness neurally bound? It is now time to combine the generality of lesser proofs and Absurdity Reasoning.

All we have to do is verify if quintessential consciousness can be thought of sensibly as neurally bound. Let's see what we can do with "Reductio ad absurdum" by taking two applicable but different propositions and see which is less absurd..

Scenario 1 -- We have a spirit:

What do we expect to observe if we presume the feelings that arise from quintessential consciousness are independent of the body and thus not neurally bound?

- An individual could have two states of being as either conscious or unconscious.
    - The individual would pass between the two states, be unaware of being unconscious, only be aware of being conscious.
    - The difference between being asleep and awake is knowable to the individual but not to a third person observer.
        - If a person chose to obscure the fact he was awake, a third person observer would not be able to define the precise difference between being asleep and awake, nor would they be able to define a test for it (assuming painful stimulus was ruled out by way of agreement, anaesthetic or similar).
        - Third person observer's would see a gradual passing between the two states of being conscious and unconscious, but the individual would report being either completely in one state or completely unaware.
    - Psychological diseases such as multiple personality disorders and pathological behaviour would arise from indeterminate consciousness.
- Something within us is accountable for the actions of the body.
- Care, compassion, love are underwritten by a vital knowledge of what it is to own feelings. Equal and opposite vitality would be given to cruelty, suffering, sadism.
    - Other independent individuals would attribute good and evil through expectations, rules and laws.
- Cartesian Dualism would make sense. Self-deceit and self-delusion becomes possible.
- The majority of humanity would seek spiritual guidance at some point.

Scenario 2 -- We have no spirit:

What do we expect to observe if we presume the feelings that we label quintessential consciousness are only neurally bound where Feelings are no more than a state of neural activity?

- Synthesised feelings would be created by events and environmental factors which would be ploughed back into a decision-making process for Free-Will to occur. This would be a perfectly valid hypothesis but:
    - The words free-will would have no meaning. The words Mens Rea and Moral Agency would have no place in the legal system.[1] There would be nothing to blame except for a faulty mechanism.
- There would be no difference between being awake and asleep for the individual except that an observer would note increased/decreased activity.
- The universe would be unobserved except as though by closed-circuit television cameras connected to monitors that displayed it to other cameras ad infinitum.
    - Knowledge would assume at best a mechanical status, but at worst, the ability to know truths, pain and pleasure would be absent.
- All "awoken" organisms could be tormented with impunity and our care for such treatment would be illogical. One could treat another any way they wish.
- Consciousness would not exist and Cartesian Dualism becomes nonsense.
- No one would seek to understand their existence, seek spiritual guidance or explanation of any kind.

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[1] See also 6.3.1 "Legal Obligation to Believe"

- Society would act as a single organism or split into groups of organisms without individuals.

In short, scenario 2 would render us all philosophical zombies[1]. Individually, we know this is not true. We can each say to ourselves "I know that such a proposition is not true of myself". Conversely, scenario 1 makes sense in almost every aspect of "being" alive.

Of course we sometimes come into contact with people seemingly so lacking compassion and other virtues that we think they conform to scenario 2, and perhaps they do, but of course we know it's desperately unhealthy and prejudicial to harbour such thoughts as there is often cause for such behaviour.

As an aside, the preceding differentiation allows us to confirm some general life observations:

> The difference between scenarios gives new meaning to what it is to be depersonalised. Prejudice (racial, cultural, class, age, gender) upsets us because we know it depersonalises us and allows us to be thought of and treated as in scenario 2. This is also consistent with psychopathically rooted violence where the victim is depersonalised by the perpetrator. Without going to great lengths to statistically prove the point, it seems reasonable on anecdotal evidence to note that every atrocity ever committed by man has come about by groups or nations depersonalising individuals, minorities or other nations.
>
> Another observation would be that persons without independent individual consciousness would have indeterminate consciousness leading to parts of the brain, potentially including the smaller cerebellum, all vying for control of the being. Again, one might anecdotally agree that this appears to be consistent with a state that we observe in individual's with severe psychological disorders. Indeterminate consciousness such as this may, for example, display itself as multiple personality disorders.

We continue the theme of scrambled souls and transplanting consciousnesses to its conclusion soon in 7.4 "The Problem of Unpredictable Emergence" but first we have to take a diversion and look at Infinity's because, although Infinity is a great subject in its own right and can cast much light on the emergence of the universe and evolutionary themes, the two subjects intertwine as Infinity is also the key to concluding questions about the location of the seat of quintessential consciousness!

7.3 Infinity & Hyper Evolution

The problem with infinity..

> "It is solemn to remember that Vastness -
> Is but the Shadow of the Brain which casts it -
> All things swept sole away
> This - is immensity - "
>
> ..Emily Dickinson Letter to Thomas Wentworth Higginson [L551] (1881)[2]

It's the same story when we go back through the infinity of time and try to imagine the origins of matter -- we just keep finding things that go further back. It's the same story when we look with our most powerful electron microscopes into the constituent parts of the atom -- we just keep finding things smaller. It's the same when we look as far as we can into deep space -- we just find more space and more matter. It's the same when we look into the future -- we can never imagine a time when change ceases.

And so, infinities exist in both directions of time and all directions of space. Where there is infinity, any possibility no matter how remote can and will occur. Not only that, such possibilities can occur an infinite number of times. Mindbogglingly, if we are immersed in true infinities in these dimensions, any possibility, no matter how remote, will have occurred an infinite number of times.

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[1] A hypothetical being used in philosophy, indistinguishable from a normal human except that it lacks conscious experience etc. http://en.wikipedia.org/w/index.php?title=Philosophical_zombie&oldid=362932858

[2] http://en.wikiquote.org/w/index.php?title=God&oldid=796380

Emily Dickinson's letter is a gift of insight in two ways. It hints that what might be more immense than all the vastness of infinity is the ability of the human brain to comprehend it. It also hints that our ability to comprehend it may limit our understanding of the immense vastness of infinity.

There can be nothing more mind expanding than the topic of infinities. So much so that it can be quite an uncomfortable thought experience, even to the point of being distressing. For that reason, I'm going to offer the reader a get out clause... here is a brief summary of the following passage:

> In effect, infinities make anything possible. They render impossible any supposition that there was no universe before the known universe. Indeed, infinities render 100% definite that there has already been life and that such life would have been infinitely more advanced than we now know it. That strikingly makes creation, perhaps not the classic biblical creation, 100% possible.
>
> Lucretius puts it well in his epic poem "On the Nature of Things" or "On the Nature of the Universe"[1]...
>
> > The atoms have a finite number of shapes.
> > If this were not so, then inevitably
> > Some atoms will have time to be of infinite size.[2]
>
> This serves well to define the difference between things which are finite and things which are infinite, and the consequences of infinity.
>
> Keep in mind that these things are mathematical certainties and keep in mind what we said about mathematical certainties in 7 "A New Rationale".

Now if you are satisfied with that, then please feel free to move on to the next passage. However, if you don't believe just how taxing the subject can be, or if you want to be absolutely certain of the proofs that we are putting forward in *Awoken Evolution* which necessarily include an understanding of infinities, then buckle up...

If the universe is infinite, there should be trillions of big bangs occurring simultaneously, right now. Indeed, we should not be surprised to see the debris from a nearby big bang passing us in space.. However, that is not what is being observed. Whilst cautious scientists are quick to tell us we can't really be sure of what really happened in the big bang, popular science would have us believe that all matter was contained in something the size of a pea, albeit a pea subject to an entirely different or unrecognizable set of physical laws.

Unfortunately, such conclusions have been so heavily pedalled, it has entered mainstream thinking as plausible to the point of overshadowing and ousting other theories with similar levels of credibility if not higher. Most worryingly is the popular notion that there simply was nothing before the big bang. Such a statement brings to mind that infamously scathing criticism made by the theistically-averse of the deeply religious -- that the more unbelievable a notion is, the more meritorious it is to believe in it..

It is difficult to provide rational argument against such a seemingly irrational proposition. First there was nothing, then there was a pea. Where does one begin? Not only is "something from nothing" impossible in terms of physics or any imagined different physics, it is also impossible in terms of cause and effect.

Of course it is mathematics that has led us to the point of seriously considering that "something from nothing" is a possibility and indeed we can add an ounce of credibility for a moment by noting that it may well be possible that the sum of all matter is still "nothing" referring to the various schools of thought concerning antimatter.

However, there still has to be change and cause and effect. Something must have started the process.

Cause and effect are the cornerstones of a logical analysis of the reality we are immersed in, the cornerstones of a scientifically analysed universe, a universe unable to be influenced by outside forces where there is nothing outside of the universe. Theoretically, the outcome of a process, the effect, can always be explained by the inputs to that process[1], the causes. Science in its pursuit of truth surely seeks to leave no process of Cause and Effect unexplained. It must either confirm each process by evidence or create theories to explain those processes. Within this logical framework we can consider humanity to be an effect caused by the process of evolution, itself caused by natural selection applied to coagulating chemical ingredients, themselves the effect of atomic reactions within stars caused by heat and pressure etc.

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[1] http://en.wikipedia.org/w/index.php?title=Lucretius&oldid=364742842

[2] See bottom of P49 in http://books.google.co.uk/books?id=nPSznx8_XhwC&lpg=PA43&ots=eNOV5Wuekf&pg=PA49#v=onepage&f=false

It is interesting to note that we can continue to break down and simplify the processes of cause and effect until eventually we arrive at the root of it all, wondering what cause and effect process brought about the existence of the laws of the universe.

So, if the mathematics do lead us to a conclusion worthy of further thought, then we must consider the possibility properly, for example, that preceding the big bang, there existed the laws of physics that made it possible for matter to spontaneously emerge. To suppose there was nothing before the big bang provides a cute solution to the problem of infinities but it's illogical and untenable. If we are not to invoke a metaphysical precursor, we must conclude at the very least that the universe was always there even if in a different, perhaps simpler state, which in turn may even lead us to see an atomic evolution of sorts. However, even that doesn't confront the ongoing problem of infinite existence and all the questions that raises about what must have been going on during that infinity.

Another criticism of supposing there might have been nothing before the big bang is that it makes the theory "unfalsifiable" in exactly the same way as the unfalsifiable nature of religion leads critics to denounce belief. There are those who would dispute the validity of this criticism, perhaps quite rightly, by saying that it is falsifiable in that it can be proven by the continuing results that we see such as the continuing expansion of the universe. So we should clarify -- perhaps the known universe is expanding, perhaps there is new evidence of atomic formations that support the theory, but it is the many underlying hypotheses about where it all came from before it supposedly exploded that simply cannot be proven or falsified.

Perhaps the soundest theory is about the universe expanding and collapsing in a repeated cycle. The theory goes that the universe always existed and as such doesn't require that something came from nothing, it simply requires that we push back our expectations of where it all came from to an infinitely distant point in the past beyond the point of which we can reason, to the point where we simply believe that it is possible that matter always existed.

Has infinity therefore given us an alternative belief to explain the inexplicable and should it rate alongside religions?

That aside, this appears to be the least unreasonable of the rational non-metaphysical explanations but unfortunately this creates a new problem. If time is infinite, then there would have been trillions of big bangs prior to this one and we should have had evolution occurring before now. Something highly evolved should have been able to escape the area of universal collapse leading up to the last big bang.

Let's reword that. Time ***is*** infinite and therefore there were an infinite number of trillions of big bangs prior to this one and thus, statistically speaking, there is zero chance that was no cycle capable of generating an infinitely evolved being that could escape the periodic universal collapse. In the course of infinity, if something is possible, then it will have already occurred. Not might have already occurred, it definitely will have already occurred -- theoretically an infinite number of times.

As an aside, it may be that some consider that Time Itself started during the big bang,[2] so we will quickly confront this notion by noting that time is a man-made convention as a measure of the rate of change. As we noted regarding cause and effect which is similar to change -- we cannot accept that cause and effect and change did not exist prior. That would be to consider that Change Itself started during the big bang too. Also, for those that consider this only applies to the cyclic big bang theory, keep in mind that even if the universe was in a different state, it was doing something prior to the big bang, something which would have involved some kind of evolution. More on this soon.

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[1] See also 2.3 "Cause and Effect v Free Will"

[2] The Beginning of Time (S Hawking) http://www.hawking.org.uk/index.php/lectures/62

Infinity is a difficult concept at the best of times so let's give it some perspective. The word Googol[1] is a mathematical word meaning 10 to the power of 100. This is an enormous number. Although simple enough to write as a decimal number on a blackboard, it is over the number of atoms in the known universe.[2] There is a bigger number called a Googolplex[3]. This is a Googol to the power of a Googol. This is an obscenely large number which, were it to be written down in decimal, would require that we write a zero on every atom in the known universe. Now suppose that the universe is as old as Googolplex number of big bang cycles.

Now we're talking about a seriously large amount of time during which it starts to become possible to imagine that literally anything that could possibly happen has already happened.

But a Googolplex is a small number by comparison to another number called a Graham.[4] Let's just say that a Graham, which is reported to be the largest number that we can mathematically express that is not infinity, dwarfs a Googolplex. And yet, Graham is not infinity. The universe, no matter what states it has traversed through, must be older than a Graham.

It is said that with the benefit of infinite time, a monkey randomly banging on the keys of a typewriter will eventually randomly write the complete Works of Shakespeare. Even this is misleading. With the benefit of truly infinite time, this occurrence would have happened an infinite number of times.

The universe is also said to be infinite in size. Let's be clear that we are not talking about the size of the known universe -- we are referring to "everything". We should think about that. We have some evidence that suggests an explosion occurred from a single starting point but to think there is only one such single starting point is a little like living in a house and presuming there are no other houses. If there was an expansion from a central point, then it is likely there are other starting points. Let's be more specific -- in an infinite universe, there will be an infinite number of starting points.

Let's expand our minds a little. In an infinite universe, there will be big bangs occurring every day, or even every second -- or in a truly infinite universe, big bangs will be occurring like splashes of raindrops in a thunderstorm, right now, this second, constantly. Perhaps it is better to imagine germinating seeds -- as each second goes past, on the basis of anecdotal evidence alone we can surmise that thousands of seeds germinate, hundreds of which eventually end up as trees. This should also be happening with big bangs in a truly infinite universe. Let's be clear about that. If the conditions exist and the formula existed that allows one tree to exist, we know that the same conditions and formula (evolution, what have you) permit the existence of many millions of trees. If the "as yet unknown" conditions and formula existed for one big bang, then likewise there will be millions/billions more.

If the universe is truly infinite, then there is an infinitely large number of big bangs occurring in an infinitely small point of time. Not might be, but will be. Indeed, at any point in time, there is theoretically an infinite number of monkeys who have just finished randomly knocking out the complete Works of Shakespeare.

If we expand our minds even further, we could easily scribble out any number of theories regarding alternative laws of physics. As long as these theories were found to be logically possible and were found to permit structure and evolution that might be invisible to us, and not interact with us, then no matter how improbable, they would be here, happening now, all around us. unable to interact with us. So if infinity truly is infinity, then there would be an infinite number of "things" going on right beside us, around us, in our space and at the same time. In essence, this would be infinite chaos.

Or perhaps the universe simply isn't infinite.

Whilst the possibility of neighbouring big bangs cannot be ruled out, it seems possible, if not even probable, that the universe simply is not infinite. It is quite obvious that there is structure and logical laws that contain us.

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[1] Googol - Wikipedia http://en.wikipedia.org/w/index.php?title=Googol&oldid=452788650

[2] Qty atoms = 10^80: Observable universe - Wikipedia http://en.wikipedia.org/w/index.php?title=Observable_universe&oldid=452149071#Matter_content

[3] Googolplex - Wikipedia http://en.wikipedia.org/w/index.php?title=Googolplex&oldid=452707283

[4] Graham's number - Wikipedia http://en.wikipedia.org/w/index.php?title=Graham%27s_number&oldid=453037856

After all, we do not see any obvious evidence of a neighbouring big bang, we do not see stars and galaxies drifting past us at hugely different rates. We can see the red shifted fringes of our own big bang and yet, we only see very few blue shifted galaxies, and in universal terms, they aren't moving very fast.[1]

This raises considerable philosophical questions about how nothingness could pick a single point in space from which to give birth to a single universe. Granted that the traditional theory of the big bang says that there was no "space" prior to the big bang, but that creates even more questions than answers. How can we really conceive of there being nothingness, not even space, from which there emerged a fluctuation resulting in a fully fledged universe? As soon as we say "nothingness" must have had some kind of laws of physics -- even if very different -- then it is no longer "nothingness".

If the universe isn't infinite and isn't a constant cycle of repetition, if the universe is a single entity in the middle of nothingness, then "creation" really is not so absurd as an alternative proposition. To put it another way, if there was nonexistence and now there is existence, then the difference was creation by an entity that was not within the original equation.

One could argue that the creating entity that was not within the original equation was a material entity outside of the known laws of physics which spawned our universe as we know it, but then, we have to apply all the same arguments of origins to that second material entity, and then to a third entity that created the second, and so on, like Zeno's paradox of halves. Naturally, the same problem of who created the creator can be said of deities -- but we will come back to that later.[2]

When we consider that we cannot possibly understand that process within our existing framework of logic, science and our current understanding of the laws of physics, then we don't just need more intelligence, we need a whole new dimension of intelligence to be able to comprehend it all. Doesn't that make faith, that so much maligned illogical activity, just a little less silly?

As something of an aside, there should be valid concerns about the mathematical principles behind the classic predictions of infinity where they come to predict that extraordinarily improbable occurrences would happen given infinite time. This might be to overlook the possibility of *infinite improbability*. The possibility of a monkey randomly banging on a keyboard eventually accidentally reproducing the entire Works of Shakespeare may simply be infinitely improbable.

However, as the "knowable universe" definitely appears to exist, then the big bang must have been a finite possibility. That being so, in the infinity of time and potential space, there must have been and must be an infinite number of such big bang events having occurred in the past and coexisting now. From that, we must conclude that a finite universe, as in the entirety of potential space being confined to the one "knowable universe", is illogical.

To put this another way, an infinite universe in an infinite time frame could be a science-friendly low-deity means of explaining how the universe came into existence. Thus, it is regrettable that we should start to find obvious observable evidence that the universe is not infinite. Of course this raises the prospect that a deity couldn't have evolved either, but our talk of massive infinities has not been a waste of time -- when our 15 billion-year-old universe is looked at in the context of ***potentially*** infinite time, we note that the idea of a freak emergence of an entire universe out of nothingness without some kind of intervention is even more untenable than it ever was. With all this new understanding of infinity, we can start to imagine a nothingness that sits there forever with no concept of time, no matter that can change, no objective, no energy, no location.. and then kazam -- one nice fresh universe. Perhaps there was an air of plausibility about the big bang theory emerging from nothing, with mathematics predicting no prior substance or time, and with the conceit of an incomprehensible set of physics that cannot be visualised, but such a theory looks stark naked when viewed in the potential infinities of space and time that would surround it's emergence. It seems reasonable to conclude that a finite universe is actually more absurd than an infinite one.

And so we really do have absurdities[3] popping up everywhere.

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[1] See preceding passage 2.1.1 "Big Bang or Big Splat?" on the Andromeda Galaxy

[2] At 8.2.1 "Evolving Deities?"

[3] See also 7.1 "Absurdity Reasoning"

Lucretius has yet more to say in his epic poem "On the Nature of the Universe" (referenced prior in this passage)...

> The number of similar shapes must be infinite,
> Or else the sum of matter would be finite,
> Which I have proved it not to be, and in my verses
> Have shown that the universes held together
> From infinity by particles of matter
> In endless chain of impact everywhere.
> ...
> Let me concede this too: let us suppose
> One thing exist alone, unique from birth,
> That has no likeness in the whole world.
> Unless there is an infinite supply
> Of matter to conceive it, give it,
> It would have no chance of ever being created,
> Still less of growth and further nourishment.
> .[1]

And this from over 2000 years ago, from a Roman seeking to free the mind of superstition and the fear of death[2].

We look again at infinite improbabilities in 7.4 "The Problem of Unpredictable Emergence". Next, we will look at the conclusions that we must draw from all these impossible infinities...

7.3.1 Probabilities Reassessed

As we saw at the beginning of 7 "A New Rationale", science is an imprecise process as opposed, for example, to mathematics which has a beautiful precision about it[3].

Given that we conclude a finite universe is more absurd than an infinite one, we'll stick with the mathematics of infinities and look at some probabilities.

If we rely on maths, taking into account that an infinite amount of time and matter implies a strong probability that there are infinitely more powerful and incomprehensible beings already around us, and that such beings could be the source of our unexplained consciousness, and that there are laws of physics and metaphysics at play that we do not as yet comprehend, then mathematically the probability of something coming before us becomes 100% and thus the probability of us coming into existence courtesy of some other process than creation actually become vanishingly low.

Given that the reality of all observations are made reference to the reality within oneself, and given the extraordinary result of evolution when we no longer play down just how extraordinary Quintessential Conscious Awareness is, is it any wonder that Homo Sapiens have spent millennia concluding that we were created by something greater than ourselves? This might be taken as logic becoming influenced by awe and incredulity, but not when we look at the mathematical probability as a basis.

When taking everything into consideration, using the process of scientific reasoning heavily reliant on theory, empirical observation and test, taking into account mathematical probability, and taking into account the extraordinary nature of our evolved quintessence, is not creationism simply the more sound conclusion?

We have previously discredited scientific explanations for our emergence by introducing doubts about theories that suppose something was created out of nothing. With the discovery that consciousness is the most relevant aspect of our existence and yet remains largely unexplained by science, we have departed further from scientific theories of emergence by establishing that there must be a metaphysical element. When we combine our review of the evidence and our discovery of the significance of consciousness with the immediately preceding look at infinities and hyper evolution, we see ever increasing credibility for the metaphysical alternative. But what sort of metaphysical alternative? Quite obviously, the creationist is advocating the alternative of a creator.

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[1] See bottom of P51 in http://books.google.co.uk/books?id=nPSznx8_XhwC&lpg=PA43&ots=eNOV5Wuekf&pg=PA49#v=onepage&f=false

[2] http://en.wikipedia.org/w/index.php?title=Lucretius&oldid=364742842#Purpose_of_the_poem ; More at: http://books.google.co.uk/books?id=nPSznx8_XhwC&lpg=PA43&ots=eNOV5Wuekf&pg=PA51#v=onepage&q&f=false

[3] ref Simon Singh in his book "Fermat's last Theorem" Fermat's Last Theorem, ISBN 1-85702-521-0

And yet, for those of us with reasoning, for those of us who have scientific minds in so much as we embrace logical discipline but simply don't agree with the direction that science is taking us, it is now necessary to consider some coherent definition of a creator that can be meaningfully discussed as an alternative to scientific theories of emergence.

One such alternative follows...

7.3.2 The Boltzmann Brain Alternative

And so if we are to consider a coherent alternative to scientific theories of emergence, and if we conclude that the simplest metaphysical alternative to theories of emergence involves considering a creator, we must discuss an example of a creator.

To maintain the integrity of *Awoken Evolution*, it is important that we keep away from any existing definitions of divine creators belong to established religions or belief sets. For that reason, we are going to envisage a logically sound creator, as an example of an alternative to scientific theories of emergence, one that we can rationally get our heads around.

Before we do any such envisaging, it is stressed that we're not trying to redefine deities or make unholy presumptions, but we are progressing by considering all possibilities and not leaving ourselves open to claims of blind faith. In short, where a natural philosophy[1] supports a possibility with parallels to that found in belief-sets, blind faith in such belief-sets is no longer a reasonable criticism. Furthermore, before any notion of a creator or god can be meaningfully discussed, we must choose a coherent definition as a starting point. This latter point is further expanded in the passage 8.1 "The Provocative Clue".

The logically conceivable theory that there might be some creator that explains our existence with all its imperfections, is something called the Boltzmann Brain Paradox[2] -- "The Boltzmann brain paradox is that it is more likely that a brain randomly forms out of the chaos... than that the universe around us would have billions of self-aware brains." -- This is a theory attributed to the thinking of Ludwig Boltzmann, 1844 - 1906[3].

Some[4] have extrapolated this to mean that where the origins of the universe were due to fluctuations in a chaotic equilibrium, it should be noted that a huge fluctuation would be necessary to create "the universe" we see. By comparison, a much smaller fluctuation would only be necessary to create a conscious brain in empty space. Such a brain would evolve, expand and simply "imagine" the universe that we see, thereby creating its rules and finally populating it with fragments of its own consciousness -- ie: you and me.

Of course, from this we are drawing the hypothesis that nothing exists except that we are all pawns in a simulation hosted by a massive intellect with no particular form. Such hypotheses are particularly frowned upon by intellectuals because they are not falsifiable and hence become unprovable, and if we were to consider unprovable theories, we open the floodgates to any kind of fantasy including fairies, ghosts, hobbits and mermaids.

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[1] in that natural philosophy "is considered to be the precursor of natural sciences such as physics".http://en.wikipedia.org/w/index.php?title=Natural_philosophy&oldid=452177832

[2] http://en.wikipedia.org/w/index.php?title=Boltzmann_brain&oldid=368760456

[3] Ludwig Eduard Boltzmann (February 20, 1844 - September 5, 1906) was an Austrian physicist http://en.wikipedia.org/w/index.php?title=Ludwig_Boltzmann&oldid=406370592

[4] eg: Sean Carroll 1966 (whose views are similar but not identical to the ones expressed here), http://en.wikipedia.org/w/index.php?title=Sean_M._Carroll&oldid=404079109

However, this does give us an alternative creation narrative to explore with the rationale given in the prior passage, 7.1 "Absurdity Reasoning". What is striking about this alternative is that it is less absurd and therefore scores more highly on our Inverse Fallacy Reasoning chart than the extended scientific rationalisation of creation as an emerging phenomena that includes evolution as perhaps it's only "verifiable" cornerstone. What we mean by this is that the big bang theory is just as unprovable in that the big bang theory concludes at best "something always existed" (which doesn't explain anything) or at worst that "something from nothing" makes the impossible possible.

The Boltzmann Brain theory may not explain the origin of every ingredient, but it needs considerably less ingredients than the big bang theory. The Boltzmann theory doesn't require massive amounts of energy, matter, nor even three-dimensional space if we consider that computers can compute within a single overlapping thread of programmatic progression.[1]

Furthermore, the Boltzmann Brain Theory explains the anomalies questioned in this book[2] including the imperfections that surround us.

In one final observation on the Boltzmann brain, it may not give a definitive reason as to how it gained consciousness in order that we would have consciousness, but it seems that thought processes would be an awful lot closer to consciousness if that thought process was responsible for infinitely everything, including even the concept of a thought process itself.

If we keep such alternatives as the Boltzmann Brain grounded, and just consider the possibility that there might be something-else without extrapolating that "something-else" towards notional constructs of monotheistic gods, angels, devils and demons, then we have a start point that is no less bizarre than the rationalised emergence of existence as presented to us by conventional scientific wisdom.

As an aside, this Boltzmann Brain theory is very similar to Pantheology, the study of the possibility that everything is metaphysical. In a further aside, it can be seen that the Boltzmann Brain is a similar logical construct to the "Evil Demon" metaphor given by Rene Descartes in describing the possible origins of the external reality he finds himself in.

One should not imagine that the Boltzmann Brain theory is an attempt at a specific explanation, but rather that it is simply anecdotal in terms of suggesting we expand our minds to consider how our existence could be very different. The universe might be as far removed from perceived reality as current scientific wisdom is to the original Flat Earth descriptions not so long ago.

7.4 The Problem of Unpredictable Emergence

At the end of the passage 7.2.3 "The Queen Cluster theory", we noted that we would return to conclude the issue of scrambled souls and transplanting consciousnesses but first we had to look at infinities. With infinities behind us, we can look at scrambled souls in the light of what it is to simply emerge as a human being anywhere at all, for no particular reason...

What does the *Problem of Unpredictable Emergence* mean? We first touched on what we described as the *uncertainty of coming into being* as covered by the *ontological study of being*[3] in 3.1.3 "Anecdotal 'I' Evidence". The fact we emerge to experience in any one given body, as opposed to anything or anyone else's, is a strangeness that is almost impossible to grasp or explain.

Consider that everything else in life is predictable to at least some degree. A kitten will emerge from a cat. A lightning bolt will emerge from a thunderstorm. However, the emerging location of one's "experiencer" within one's body appears to have no causation, no correlation with anything preceding it. Ie: I may be fortunate enough to have been born into a healthy body with security and opportunity, but how and why did that happen? Why am I one of the few fortunate ones not born into poverty and subsistence? Why not a dog, mayfly or even a tree? Why was I born at all?

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[1] Describing this overlapping nature of a single program thread in detail is beyond the scope of this book, suffice to suggest that memory storage and retrieval is a form of overlapping program thread progression.

[2] See 1.2 "Questioning Experience" etc.

[3] http://en.wikipedia.org/w/index.php?title=Ontology&oldid=358342063

Perhaps it is uncommon to find ourselves wishing we were someone else, but if and when we do, it seems natural enough to do so. We feel lucky or unlucky if the body we find ourselves to have emerged in has or has not certain attributes. It's probably even more telling when we look at someone with dire circumstances to note that we should be lucky that we are not them. And yet do we really stop to think about just how easily we could have been them? Perhaps considering whether or not we could have been someone else seems natural at the outset, but exploring this concept in any depth is very challenging. What caused you to be "you"? Was that in any way predictable?

Why should emergence be predictable? If a train is trundling along a track, we can obviously predict where it is going. For something less predictable, we might consider the seemingly incoherent flight of a fly -- but even so, we can predict the fly is not going to vanish and emerge 10 blocks away. Consider the emergence of a tomato -- we know where the constituent ingredients came from being carbon, water, etc. In this way, we can even follow the predictability of the emergence of our physical selves and our offspring -- our physical emergence is the predictable result of procreation, our genes, etc.

However, speaking from my own perspective, I see nothing in the genealogy that precedes me that could have predicted that the sentience that constitutes "me" or *the experiencer* that simply *is* "me" should have emerged into this particular family at this particular time.

Now let's return to the Queen Cluster Theory[1]. If we presume this cluster creates us and is us, then have we not made emergence predictable? On the face of it we can explain how emergence of consciousness can be predicted. If "my consciousness" was created by a Queen Cluster (as theorised in that passage) then it could make the effect of Unpredictable Emergence predictable because it would give us "cause" to go with "cause and effect". However, there is still nothing in the Queen Cluster theory that determines or helps predict which experiencer ends up in which body.

Essentially the Queen Cluster theory is saying that a society of cells creates and nurtures the experiencer that is "me" but instead of asking "why did this cell society create me?", we should ask "why was myself placed into this particular cellular machine?". We might also ask "why did this cellular machine create me and not someone else?". We could agree that a cell cluster could create an experiencer (although that is very much in question when we consider things like the experience-moment[2]), but the point being made is that we cannot predict which of us would be that experiencer.

To assume my body had to create me is to assume "my consciousness" must be created within my body. This is to assume my body could not have created someone else's consciousness, nor could someone else's body contain my consciousness. Moreover, that worryingly concludes that were my body and my Queen Cluster, fractionally different, then *my body would be somebody else*, and "I" (referring now exclusively to my own quintessential conscious awareness) might not have existed at all. We are thus still left with a dilemma of wondering why each one of us individual experiencers has acquired the experiences of any one particular physical being rather than within another or others.

We cannot escape the apparent lack of cause in the normal flow of cause and effect that determines the significant placement of any one given experiencer in any one given location.

This differentiation, this "separation of my body and me" is pure dualism (ie: Cartesian Dualism). It demonstrates there is an entity within each body, either at the helm or as a passenger, that is present when consciousness is present. This is the mind-body problem in a new light showing that not only is there a centre-of-self that cannot doubt its own existence when all else can be doubted, but the centre-of-self cannot determine the cause or reason for its particular location in any given body or reality.

In the earlier passage 5.2 "Debunking Feelings", we used the "*lay of the cards*"[3] explanation to explain the apparent improbability of unpredictable outcomes. Therein, we encountered a common argument to explain any apparently extraordinary, improbable or unpredictable outcome. If we repeatedly throw a deck of cards across a table, we can marvel at how each result is a unique lay of the cards, each precise final position being an extraordinarily improbable outcome. However, that is flawed because it is to assume there was something special about the outcome whereas in reality, each different outcome was simply random. Why can't we just explain ourselves, our quintessential conscious awareness, our location, as being one such completely unique and simply random outcome?

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[1] See 7.2.3 "The Queen Cluster theory"

[2] See 1.6.1.1 "The Mechanics of the Experience-Moment"

[3] See earlier passage 5.2, "Debunking Feelings", paragraph 4

Simply put, this "*lay of the cards*" explanation would be to presume "I" am a random outcome that had a finite chance of existing.

This is where we have to start pondering the incalculable conclusions of infinities as discussed in the passage 7.3 "Infinity & Hyper Evolution". Let's consider the random lay of the cards is a "finite probability" and therefore "my existence is a finite probability" also. This means that in an infinite universe, not only will I come into existence again an infinite number of times, but also anywhere I point, I will be pointing at an infinite number of instances of my own quintessential conscious awareness. As that is a classic example of taking a proposition to be "disproven by following its implications to a logical but absurd consequence" as in "Reductio Ad Absurdum"[1], it seems that "I" am not a finite probability, and therefore I am not a random lay of the cards.

This isn't so much to explain "what I am" as much as it explains "what I am not". The passage 8.1.1 "The Elephant in the Corner" will put the problem of unpredictable emergence in a different, less technical and yet more compelling light.

So! Why does this being hold me and bring me into existence and why do I have the capacity to be irked or pleasured by it given that my being is only an otherwise complex and intricate machine?

If there is no specific "sensation destination" such as the hypothesised Queen Cluster, for example if sentience is just part of data flow instead, then although the Queen Cluster theory would have to be revised, the overall philosophy remains principally intact -- the emergence of any one given experiencer in any one given body is an indeterminate event without known cause.

If we try to remain grounded in a non-metaphysical rationalisation, where consciousness is neurally bound, we might consider that the ability to experience sentience with pain and pleasure doesn't emerge but it is a dominant feature of certain atoms and molecules that only becomes activated when they become part of sufficiently complex thinking beings. Of course this was covered in the passage 3.2 "We Are What We Eat". However, this throws up an interesting paradox with intriguing consequences... When we consider that any such atoms and molecules across the universe are capable of such sentience, we must conclude that sentience is a universal quality, not a personal quality. Perhaps this is something the universe strives to do, to "know" of itself. Perhaps not, but the fact is that through us, the universe certainly does "know" of itself, whether we think that is incidental or not, whether we like it or not. Without humans or similar beings to gaze at the stars, who or what else would know it all existed? This could be a non-metaphysical way of explaining emergence, but it leads us to have to conclude the universe always was and always will be capable of experiencing sentience with pain and pleasure whenever these atoms and molecules are arranged correctly.

When we start to combine the results of the prior thought experiments as explored in the passage 7.2.5 "Consciousness Does Not Compute?", where we start to wonder if consciousness requires computational qualities at all, then we see things coming together that start to provide more substance for theories involving universal consciousness.

What the universe has achieved in this regard, whether or not it wanted to, is "self awareness" -- This is One Universal Consciousness which is explored further in 8.3.1 "Empirical Epiphany".

But there is more!

The problem of unpredictable emergence doesn't just apply to the birth of consciousness individually, it also applies to a universe that cannot be truly infinite.

And why can't the universe be truly infinite? Because as pointed out earlier, everything would be happening all the time. An infinite number of big bangs would be happening and the debris would be crisscrossing our skies. An infinite number of infinitely primitive beings and objects along with an infinite number of infinitely evolved beings and objects would be all vying for an infinitely cluttered space.

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[1] See 7.1 "Absurdity Reasoning"

We simply don't observe anything like this amount of clutter so we must conclude that the universe is not truly infinite. And yet, something with a degree of entropy-defying order, something which lies between infinity and nothingness, emerged. This isn't just an emergence in an unpredictable location, it is an emergence of an unpredictable outcome. Ie: One would be naturally inclined to predict that the outcome of something that was infinitely possible (the sum of possibility and infinity) would be all-consuming, but it is not. We observe a finite outcome instead of an infinite outcome.

My consciousness and your consciousness could have emerged anywhere, even outside of the known universe, but it didn't. It emerged here in a finite environment where consciousness can be supported and nurtured. Furthermore, my consciousness and your consciousness could have emerged anytime in the universe's history or future, long before life were sustainable or long after everything evolves to some kind of all-consuming, unifying oblivion, but it didn't. It emerged here in a moment of time where consciousness is not only supportable, but it is thriving at a moment of time where consciousness is surely at its point of highest challenge.

On the face of things, that tends to bear out the evolutionary notion that consciousness is the byproduct of a supportive and nurturing environment. However, such a conclusion conflicts with the conclusions that we drew regarding our thought experiments in 7.2.5 "Consciousness Does Not Compute?" unless of course we were already immersed in "matter that has regard for itself". Moreover, such a conclusion does not explain how or why you and I emerged into the here and now.

On the face of things, it could be simple coincidence that we were not born when life was simple, and that we are born at time when we are beginning to understand more than ever, and indeed finding there is more to understand that we could have thought possible. Is it really such a coincidence that we have been born into an era that must surely be at the zenith of the struggle of consciousness between right and wrong, between ignorance and enlightenment?

On that note, it seems a good time to get a whole lot less technical and start looking at the conclusions we can draw...

8 In Conclusion

Should we accept the explanations for our existence as painted by Darwin, Huxtable, Dawkins and all, or should we look to the bigger picture as painted by so many philosophers including Plato, Aristotle and Descartes?

Whilst conscious emotions and even altruistic behaviour can be explained in evolutionary terms to be a range of reactions and tribal behaviours, that flame of the inner consciousness that is "**`I`**" is not so easily explained by evolution. The ultimate fact within each of us is that we know we exist and sensate. As Descartes illustrated, all other facts are uncertain as judged by that inner ultimate fact.

And are we simply to accept there was nothing of substance that occurred before the big bang?

If we generalise what Freud has to tell us, there have been three great assaults on mankind's ego -- the first was when Copernicus found out we weren't at the centre of the universe, the second when Darwin found out we were descended from the apes, and the third was when Freud found psychological behaviour was based on sexual and animal instincts.[1]

But no, when we reanalyse life such as we have in *Awoken Evolution*, we can contest such generalisations. We may be circling an average star, but it would seem we are at the centre of an expanding universe and we are the only known sapience within it[2]. Then we find little more of substance in the next assertion -- humans are an entire chromosome away from the apes with art, music, culture, science, technology, a sense of right and wrong, and of course a unique desire for spiritual guidance. Finally, whilst our primitive psychological behaviour may be rooted in the sexual instincts of animals, it is our inner self that observes and judges and intervenes between the chaos of cause and effect, imposing a morality that rises above such primitive instincts. Perhaps none of these counterarguments foil the above generalisation completely but they certainly do warn us not to become too entranced by the hypnotic inferences of such intellectual certitudes.

And so what should it matter that we now have such logical constructs as to be able to contest non-theist scientific rationalisation? It's easy to lose sight of what *Awoken Evolution* is trying to achieve. Yes, we are immersed in a reality that shows no interest in our quest for knowledge, no respect for our morality, and no sympathy for our frailties. Understanding life doesn't make it any less inclined to trundle right over the top of us. When viewed like this, all the foregoing web of logic and conclusions can seem irrelevant.

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[1] The main source of this generalisation appears to come from Philippe van Haute -- "According to Freud, modern humanity has endured three fundamental narcissistic wounds" (p33, introduction, "AGAINST ADAPTION: Lacan's 'Subversion' of the Subject", ISBN 1-892746-65-4 http://books.google.co.uk/books?id=I44xPY1WAFoC&lpg=PR27&ots=vKSlfl7agu&dq=Freud's%20copernicus&pg=PR33#v=onepage&q=copernicus&f=false).

This itself cites Lacan's words: "Is it enough that a privilege should be consigned to it, namely the one that put the earth in their central place? The subsequent dislodging of men from a similar place by the triumph of the idea of evolution gives one the feeling...." (Haute's book citing an unknown English translation of Lacan's 1977 "Écrits", eg: ISBN-10: 0-393-30047-1). See also Jacques Lacan, http://en.wikipedia.org/w/index.php?title=Jacques_Lacan&oldid=365294343

Numerous other accounts point to this generalisation including: Daniel Rourke, MA in Writing at Roehampton University -- "According to Freud there have been three great scientific revolutions that completely re-drew the boundaries which border human reality" 1/ Copernican.. 2/ Darwinian.. 3/ Freudian/Psychological... Ref: http://www.huge-entity.com/2005/12/next-great-revolution-in-reality.html (2010/06/04).

Another uncredited dissertation is: http://www.21stcentury.co.uk/masters/sigmund_freud.asp where it is said "Freud struck the third revolutionary blow to human pride. The first had been in cosmology. As Freud said, Copernicus has shown that the earth (and therefore humanity) was not the centre of the universe. The second was in biology thanks to Charles Darwin. Man was not God's creation but an evolved ape. Freud's 3rd revolution was the psychology of the unconscious...." (Copyright © 1995 - 2010 21st Century New Media Ltd, Borehamwood, Herts, UK)

[2] Ref 2.1.2 "Alien Absenteeism"

But all we need do is pause to remind ourselves what it is to be trapped in pain, what it is to be lonely, what it is to have hope and be ecstatic, what it is to see a baby born and watch others depart, what it is to simply exist and try and contemplate what it would be like to cease to exist.. Then that question "is there more to life than meets the eye" renews its haunting draw.

Then when we revisit the difficult journey through philosophy and logic as we present in *Awoken Evolution*, we can see that the accusation of "irrational belief" can no longer stick and the spectre of being branded ignorant of the evidence can have no further hold.

And surely then we can allow ourselves to start thinking again and claw back sanity from an insane existence.

8.1 The Provocative Clue

In this chapter, we review and conclude the foregoing evidence and counter evidence and the logical debates and proofs. But what have we proven? It is in the nature of things that we can't prove or disprove much, not even the Boltzmann position[1], not least because of the principles outlined in the two earlier passages in that chapter, 7.1.2 "Stolen Proof" and 7.1.3 "The Metaphysical Confidentiality Clause".

Without proof, one may argue that the only thing all the foregoing can give us is a variation on Agnosticism -- that we cannot ever "know" whether there is a God or not. However, it is the scale of the conundrum, the amount of knowledge that seems deliberately inaccessible, unknowable, and unobtainable, that is one of many clues provoking us to search out greater meaning and truths. So there may be no hard evidence in any one phenomenon, event or observation, but it is the abundance of "anecdotal evidence" about our consciousness, our search for our origins, our presumptions about good and evil in law, our emergence and about the holes in the broader theories of emergence offered by science, and so forth that all cumulatively give rise to a clue in itself.

Of course we must acknowledge the non-theist position that we have evolved such phenomenal predisposition as a means of contributing to tribalism through religious susceptibility, in turn a useful survival mechanism. Indeed, Lewis Wolpert indicated that religion came about after our predecessors discovered cause and effect over the use of tools and wanted to apply the same logic to the cause of diseases and other environmental factors[2] -- the implication being that without any other causation to turn to, our predecessors assumed such causes had to be the act of God's. This is surely an example of how science can contrive to take anecdotal evidence and derive an entirely different conclusion. Surely the emergence of religious susceptibility is at least as much evidence of an innate metaphysical understanding that has no obvious source. Such susceptibility doesn't remotely manifest itself in other intelligent creatures (dolphins, whales, elephants, chimpanzees etc). Regardless, the arguments surrounding emergence and consciousness in all the foregoing constitute more than anecdotal evidence against a simple predisposition to belief.

Nonetheless, in the absence of hard evidence, what are we to do with this abundance of clues?

The nearest type of agnosticism encompassing these clues devoid of proofs is probably "Agnostic Theism"[3] -- Søren Kierkegaard states: "If I am capable of grasping God objectively, I do not believe, but precisely because I cannot do this I must believe".[4] This can be interpreted as Kierkegaard agreeing with us -- If he has knowledge of God, he has no need of faith as he has proof, but without this knowledge of God, he must believe in something. This is what gave rise to our maxim in the earlier passage 7.1.2 "Stolen Proof" that "If it were proven or subject to proof then you would have science, not faith".

To make a parallel, it's a bit like driving in a fog -- we drive slowly and carefully because we "believe" there might be an obstacle even though we can't see it. If there was no fog, any such belief would be redundant and replaced by the knowledge of what we see. The clues that provoke us to drive safely include seeing indeterminate glimpses of lights and shapes in the fog, warning signs, what we've been taught or heard, and lastly, the fog itself.

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[1] See also 7.3.2 "The Boltzmann Brain Alternative"

[2] From evolutionist/creationist debate recorded Nov 2009 with a copy on Vimeo http://vimeo.com/8313984, at 5:40

[3] http://en.wikipedia.org/w/index.php?title=Agnostic_theism&oldid=302866934

[4] http://en.wikipedia.org/w/index.php?title=Agnostic_theism&oldid=455478614

The conclusion drawn by Kierkegaard and Agnostic Theism is that it is a folly to conclude all these clues can be ignored and we can just drive at normal speed. We should allow an abundance of clues to provoke us to take action.

Consider another type of agnosticism called *Ignosticism* that considers that "the view that a coherent definition of a deity must be put forward before the question of the existence of a deity can be meaningfully discussed".[1] It should be said that this is taken slightly out of context (in that it is only part of *Ignosticism*[2]), nonetheless it is a significant maxim in itself. And now we have a suggested action to cope with this unprovable fog of clues -- to conceive of a coherent deity.

This is not to encourage any particular belief system but it certainly gives credibility to the conception of such theories as we found in the preceding passage 7.3.2 "The Boltzmann Brain Alternative". In the preceding metaphor of driving in a fog, we could liken this position to saying there are many clues to suggest that we should believe there is something out there in the fog, but if we simply say we have no idea what's out there, we cannot meaningfully discuss or conclude how we should drive responsibly. Most drivers choose to believe that there are likely other vehicles which then allows us to meaningfully discuss the possibility that one or more might be motionless and in our path. A sincerely ignorant act would be to draw the conclusion that as there is no hard evidence to the contrary, we can believe we have an open freeway in front of us.

The *provocative clue* is merely the accumulation of an abundance of clues that should provoke actions beyond ignorance. These clues may not be sufficient to push us or pull us one way or the other, but they are sufficient to allow us to reach some surprising and even startling new conclusions...

8.1.1 The Elephant in the Corner

With all the foregoing battle of logic, perhaps the most convincing argument comes from a surprising place, from considering the problem as an ardent non-theist.

Now, as a non-theist, or at least from that perspective, how can you or I explain the emergence of existence? All we need are some scientific theories to explain how the universe came into being and how we in turn came into being.

After all, it all makes sense. First there came energy and the seeds of reality. Surely neither side of the creationist/evolutionist debate can lay claim to knowledge about what preceded that, so we can move right along. As a devout follower of logic, and considering as would an ardent non-theist that "there is no God", then how does science answer the questions of my existence?

We know that gaseous matter can emerge from the darkest corners of space. We know all about dark matter, dark energy. A little energy sprinkled with an awful lot of time eventually produced an environment where crystals formed in the crudest of self replication. That self replication became refined by a process of natural selection, and then survival of the fittest. Eventually, cells became microbes, microbes became organisms, organisms became mammals, mammals became humans, and eventually, one human became me.

It was all going terribly well until the last four words -- "one human became me"?? Or, if you like to see this the other way around, we might say "Humans evolved and then I became one of them". "**`I`**" didn't become nothing, and "**`I`**" certainly didn't become everything, "**`I`**" became something in between. Whichever way this is viewed, this compellingly demonstrates how *Unpredictable Emergence*[3] confounds atheistic explanations. You might say it in other more innocuous ways such as "I evolved", or whatever, but as soon as we try to include our own individual personal self into the evolution theory, it sounds like we've overstepped the usefulness of the theory.

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[1] http://en.wikipedia.org/w/index.php?title=Agnosticism&oldid=455328491#Types_of_agnosticism

[2] http://en.wikipedia.org/w/index.php?title=Ignosticism&oldid=451698084

[3] See 7.4 "The Problem of Unpredictable Emergence"

One can argue the rights and wrongs of evolution, the validity of religious scriptures, the absence of logical or even religious explanation for where everything came from. However, the first major tearing of the fabric of reality is the introduction of our own consciousness. To say that my consciousness (me) or your consciousness (you) grew along with the growth of my or your cells only sounds plausible if you do not stop to consider that "you" encompasses the final inescapable destination of sensations such as comfort and discomfort, awe and dread, pleasure and pain.

This is of course not apparent when we confine the definition of consciousness to represent a state of alertness but it is apparent in each of us when, for example, I consider my quintessential consciousness is like a Cartesian dimension that transcends life and reality for me. This isn't just consciousness, this is quintessential conscious awareness as described in all the foregoing, this is a dimension capable of perception that fell into "my" body.

Perhaps that best describes the dichotomy that is the unpredictable emergence of "my" quintessential consciousness. The fact that there is consciousness itself is remarkable enough but it is only when "you" consider this is "your" consciousness that it becomes as inexplicable as its origins are unknown.

And then of course there is this problem of unpredictable emergence on a grand scale. If we backtrack to the fundamental problem of trying to rationalise as to precisely how the big bang gives us something from nothing, we find we cannot so easily write off the *emergence of existence* as a problem for both the creationist as well as the evolutionist. If we are given a theory that assumes everything always existed, that doesn't answer the question -- it just defers the question about where everything came from back further. If we are given a theory that assumes everything was instantly created at the point of the big bang, then that gives us creation. If our universe is not infinite, a postulate that we found absurd prior[1], then we must also know why it emerged here and now, with "me" and "you" in it.

The emergence of existence is simply inexplicable. Science simply does not have the luxury of being able to ignore what is utterly illogical -- that something can come from nothing. If the protagonist says that neither can the creationist ignore the inexplicable, then we have to ask what form of logic is there left that handles this? Shall we bury the illogical problem of the inexplicable in the ground? We exist, so therefore our existence is inexplicable? No, unless we allow the realm of philosophy, faith and belief to help us understand the inexplicable, to help us understand a problem that cannot be explained by science, then we reach the point where it is supposed we are not allowed to think about it at all.

The real elephant in the corner is two very sharp pieces of evidence that completely betray atheistic science -- the *inexplicable nature* of both *quintessential conscious awareness* and the *emergence of existence*.

8.1.2 What is Science Anyway?

What does science actually give us? Not to be confused with applied sciences(technology, medicine, research), what do we think of when we think of science? What is science anyway?

Consider the views of Professor Lewis Wolpert, a developmental biologist and renowned author and broadcaster. In an April 2005, The Guardian asked 250 different scientists "What is the one thing everyone should learn about science?"[2] Wolpert responded:

> "I would teach the world that science is the best way to understand the world, and that for any set of observations, there is only one correct explanation. Also, science is value-free, as it explains the world as it is. Ethical issues arise only when science is applied to technology - from medicine to industry."
>
> In a lecture entitled "Is Science Dangerous?", Wolpert comments on responsibility, ethics and applications of science:"I regard it as ethically unacceptable and impractical to censor any aspect of trying to understand the nature of our world."[1]

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[1] See also 7.3 "Infinity & Hyper Evolution"

[2] April 7, 2005, article entitled "Spiked", source: http://www.guardian.co.uk/science/2005/apr/07/science.highereducation and http://en.wikipedia.org/w/index.php?title=Lewis_Wolpert&oldid=455219696

Lewis Wolpert is a self proclaimed atheist[2] and scientist who claims there is zero evidence for God, thus making his views a good counterpoint for the point we are about to make.

The purpose of this passage is to explore whether or not the aforeto two quoted thoughts are mutually exclusive. By the unrelenting use of empirical evidence based scientific technique, does science unwittingly introduce a natural bias towards non-metaphysical explanations? The answer to that is that of course it does, and most of us agree it absolutely should. However, doesn't that rather limit the fields that science should matriculate in? For example, is it right that science should challenge the merit of religion and belief when it comes to spiritual guidance? Sometimes science and faith do come into conflict, for example in the field of medicine where people may be perfectly treatable by Applied Science, where such people might otherwise suffer unnecessarily at the hands of faith based healing. That said, what about fields that don't come into conflict because science doesn't have an alternative explanation? What about the field of explaining consciousness and the emergence of our existence?

Science seems to be obsessed with$_{0]}$ explaining the emergence of our existence. This is laudable enough given that the purpose of science is the pursuit of knowledge, but given that science can only come to a non-theist conclusion by virtue of its empirical evidence based techniques, science is therefore also obsessed with explaining our existence in a way which is non-metaphysical.

Indeed, when we strip away all applied sciences[3], one wonders what else science does.

First of all, let's look at what science is to us. "Science does do some stuff really well... It's been the most successful intellectual discipline that mankind has ever embarked on." -- Russell Cowburn 2009[4] There is no disputing that especially given that Cowburn is a scientist with Christian beliefs. We should pause to concede that this is taken a little out of context and to note it was never intended to be referenced. However, it still begs the question, what is it that science does so well? When we remove all the practical "things" that applied science lays claim to, what is it that the *remainder of science* does really well?

And what do we mean by the *remainder of science*? Consider the following extract from a definition of science... "The observation, identification, description, experimental investigation, and theoretical explanation of phenomena."[5] Do we think of anything that is not Applied Science as Phenomenal Science? Perhaps natural science?

What do we think of when we say the word Science?

- Do we think of technology with cars, planes, rockets, weapons, calculators, computers and robots? Okay, but isn't all that simply mathematics and engineering? Yes, and that's applied science.
- Do we think of medicine, genetics, nutrition and health as science? Of course we do, but is that really science? Isn't that just research and the application of disciplined logic to ensure the best use of said research? Yes, and that too is applied science.
- Do we think of an industrial research and development as science? Yes, but isn't that simply the application of knowledge in different combinations to develop new innovations? Yes, and that too is another applied science.
- Do we think of social and behavioural science when we think of science? This is where the distinction between applied science and other sciences becomes blurred. It seems to be an applied science but is not found to be listed as such.

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[1] http://en.wikipedia.org/w/index.php?title=Lewis_Wolpert&oldid=455219696 and http://www.nobelprize.org/nobel_prizes/medicine/articles/wolpert/

[2] http://vimeo.com/8313984 --Wolpert, in 'A debate between Lewis Wolpert and Russell Cowburn in Nov 2009 at Gunnersbury Baptist Church', starts his speech: "first of all, thanks very much from inviting me, a nice atheist like myself...". He later says "I'm an atheist, I am not against religion" (about 15% into video).

[3] See http://en.wikipedia.org/w/index.php?title=Outline_of_applied_science&oldid=455211960

[4] http://vimeo.com/8313984 Ctd:-- In 'A debate between Lewis Wolpert and Russell Cowburn in Nov 2009 at Gunnersbury Baptist Church', Russell Cowburn, Christian scientist (about 12:35 or ~20% into video)

[5] science. (n.d.) The American Heritage® Dictionary of the English Language, Fourth Edition. (2003). Retrieved October 26 2011 from http://www.thefreedictionary.com/science

- Do we think of chemistry and biology as science? Yes, but isn't that just the study of "stuff" that typically feeds back into medicine, nutrition and technology? Does that make it applied science? For the major part yes, but obviously the distinction between applied science and this mythical "*remainder of science*" that we seek is becoming increasingly blurred. In particular, the findings of biology tend to feed into the theory of evolution of course.
- Do we think of physics, cosmology and astrophysics as science? Certainly, but as that has limited practical use, it isn't found documented as an applied science. So what sort of science is it? Is this the *remainder of science* we seek?
- Do we think of evolution as science? Of course we do. It may have some bearing on chemistry, biology and perhaps some research into genetics, but it is much more about explaining the emergence of our existence. It is certainly science being used to further knowledge, but for what practical use?

The above points have been put in approximate order of applied science at its most practical through to phenomenal science at its most esoteric. At the latter end of the spectrum, we see the elusive *remainder of science* that we sought prior. This is something that might be thought of as an esoteric version of phenomenal science -- a search for an explanation for our emergence and existence.

We take for granted that science searches for knowledge and to explain phenomena, but there should be a strong distinction between practical phenomena and esoteric phenomena.

Practical phenomenal science researches and explains such phenomena as magnetism and gravity. This gives two examples that are not well explained as yet, but there is no dispute when it comes to classifying these as non-metaphysical.

By contrast, esoteric phenomenal science researches and attempts to explain such phenomena as existence and consciousness. That gives two examples that are not at all well explained as yet, and may well be metaphysical, or indeed to many are *indisputably* metaphysical.

And if science seeks to explain such esoteric phenomena, what is its goal? To single-mindedly prove consciousness and existence can be explained in non-metaphysical terms? When we take away all the other practical branches of science, what else is science trying to prove?

Now that is a problem because science is inherently a non-metaphysical discipline. It is certainly reasonable to apply science to see whether or not a non-metaphysical explanation can be determined, but when no definitive explanation can be found, it is not reasonable to take indefinite results and, with all the authority of science, discourage belief sets and spiritual guidance. Indeed, when noting that no definitive explanation can be found, science is essentially proving the metaphysical but just won't admit it.

And here science comes into direct competition with religion and myth attempting to provide a logical alternative, an atheistic explanation. It is in the very nature of science to avoid the metaphysical. Science finds itself in an awkward position of being committed to finding evidence and providing answers from the evidence. Unfortunately, beyond the observation that creatures adapt to different environments through survival of the fittest, and beyond the observation that the universe is very large and expanding, there is little evidence for science to work with towards this esoteric quest. In a scientific experiment mixing chemicals for example, we can control the cause and measure the outcome. In the realm of trying to fathom the origins of our quintessential consciousness and its destiny after our demise, we have no such control or ability to observe. Knowledge dispels ignorance but we cannot derive knowledge by ignoring evidence riddled with unknowns.

Whilst Wolpert's version of science's aims are laudable, is it even possible for science to be unbiased when it tries to confront the big questions about our origins? There is no question that the scientific exploration of these questions is important, but perhaps it should carry a warning on the box... "Warning, science is ideologically incapable of arriving at metaphysically compatible conclusions".

By attempting to draw logical conclusions from evidence with unknowns, especially concerning the unknown of quintessential consciousness and how there was emergence of matter and energy from nothing, science has to ignore those unknowns. By ignoring those unknowns, substituting those unknowns with more remote unknowns, or concentrating on narrow bands of evidence that has little relevance to the bigger picture (such as promoting evolution as an answer to the emergence of existence), we have at best theories and at worst conclusions based on ignorance. By attempting to dissuade people from their faith based on such theories, we attempt to ply people with theories masquerading as conclusions, indeed conclusions based on ignored unknowns. This is especially poignant when that conclusion pertains to the use of logic and scientific method.

And so what is "irrational belief"? Faith based on ignorance? We could certainly say that we've just discovered "irrational science" -- science based on ignorance to the extent of ignoring massive unknowns.

Contrary to popular opinion, faith is not ignorant, nor is it founded in ignorance, because it is doing the opposite -- it is exploring the unknown rather than ignoring it, and it is extrapolating that unknown into a working belief-set in order to deal with the unknown. Perhaps guilty of constructing elaborate visualisations of the unknown that come into conflict with alternative visualisations, and guilty at worst of introducing terrifying persuasions to the nonbeliever such as the "hell narrative" and fanaticism, faith nonetheless embraces the unknown instead of ignoring it. How can that in any way be intellectually dishonest, ignorant or irrational?

Yes, early man deferred the explanation of inexplicable illnesses and phenomenon to the work of devils and deities, and we have since found out that the explanation is better served by bacteria and electricity etc, but even that was not "ignorance" or "irrational". Mankind was dealing with an unknown by constructing a visualisation. Maybe it was errant. Moreover, maybe bygone religious treatment of disease was only ever intended to deal with an entirely natural fear of mortality arising from succumbing to such ailments. Whatever it was, it was not irrational, dishonest or ignorant.

If scientific knowledge is intended to dispel ignorance, any dry anti-metaphysical explanation for existence that ignores unknowns and thus becomes even more irrational than faith needs urgent review.

Let's leave the final word to someone whom many consider to be the ultimate scientist and mathematician... Albert Einstein said "A human being is a part of the whole called by us universe, a part limited in time and space. He experiences himself, his thoughts and feeling as something separated from the rest, a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty."

8.1.3 Balancing The Extremes

Cambridge professor John D Barrow is quoted as saying "neither science nor religion offer the ultimate truths" and it is said "he challenges scholars to cross boundaries". Barrow was the winner of the Templeton Prize[1] in 2006.

This prize has attracted criticism for considering religion in connection with science[2] but perhaps those critics in the science community should consider that science is becoming every bit as intolerant as religion ever was. It used to be the church that burnt heretics but now it seems some intellectuals are becoming just as blinkered, just as quick to throw counterarguments into the boiling oil of derision. At least the Templeton Prize welcomed debate in its choice of Barrow.

Awoken Evolution is not so much about exploring "church" creationism as it is about exploring the credibility for the creationist view point and all that it stands for. All *Awoken Evolution* seeks to do is to review all possibilities and indulge in reasoned debate. The criticisms of science's non-theistic intellectuals about creationism are hindering this reasoned debate to the point where science itself risks becoming part of a dogma going beyond the significance of evolution-theory into the realm of "preaching" atheism[1] using somewhat underwhelming amounts of empirical evidence (as we discussed throughout the chapter 4 "Valley of Cold Logic" and elsewhere concluding at 8.1.2 "What is Science Anyway?"). Of course preaching is what the "church" in all its denominations and guises does an awful lot of, and so one cannot criticise one side or the other for that, but science does carry extra responsibility towards moderation, because it's influence should be entirely factual and evidential. When the theory of evolution is extended beyond the simple premise of describing how species progress, to then go towards attempting to explain where we come from, indeed to explain where everything came from, it starts inserting presumptions into the unknowns in evidence. Even that would be okay if it were to remain a theistically neutral hypothesis.

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[1] Ref: The Templeton Prize founded by philanthropist Sir John Templeton in 1976 overseen by the US-based Templeton Foundation. http://news.bbc.co.uk/1/hi/sci/tech/4811266.stm 15 March 2006

[2] The prize has been criticized by atheists such as Richard Dawkins, who labeled it "a very large sum of money given... usually to a scientist who is prepared to say something nice about religion" (Dawkins 2006). Dawkins is critical of the prize in his book The God Delusion. http://en.wikipedia.org/w/index.php?title=Templeton_Prize&oldid=335568818

For the purposes of *Awoken Evolution*, it isn't productive to dispute this evidence, but we should remind ourselves that the Vatican too has libraries of disciplined scholarly theories based on some "scant" evidence depending on your viewpoint. What better a theory than to surmise there is a good and evil? Whichever way you look, this is a debate that is going to be fought on evidence that is not so much scant as it is difficult to comprehend, qualify and assess. That doesn't mean we should ignore it, nor should we run from it with the excuse that all theories are unprovable and unfalsifiable.

Darwin's evolution is maybe a good theory in that it meets all the main criteria for good theory -- it is logical, can be disproven and yet has not been. It has evidence, and it even allows us to simplify and build upon it. The biggest problem with evolution that *Awoken Evolution* seeks to highlight is its incompleteness when viewed broadly. To be a theistically-averse evolutionist is to presume on the basis of one good theory that everything can be explained along similar lines. This is then presented as a complete creation theory with the evidence-starved big bang theory papering over a substantial amount of unknowns.

Why not consider yet other theories? For example as we considered in the 7.3.2 "The Boltzmann Brain Alternative" -- could logic have more easily evolved than biological organisms and matter? Might such logic have evolved infinitely already? Such a theory is not as good as general Darwinian evolutionism in some ways but is better in others. That is to say, it is poor in that it is relatively unfalsifiable, but it is better in that it is very logical, and one could argue that more evidence fits.

One could argue that the physics required for pure logic are a lot simpler than the physics required for biological life. One could also argue that it's a better theory because it also explains humanities obsession with gods and souls, and even explains why both science and religion are unable to explain our origins despite being obsessed by the problem -- because Boltzmann's theorised Creator would not want "us" to know about our own origins. If we did, we could not exist as we do within such a synthesised existence because if we knew we were in fact something else, we could not enjoy "life" as it has been designed by Boltzmann's theorised Creator.

As said, a scientist would argue that it is flawed because it is an unfalsifiable hypothesis that cannot be subjected to the kind of test that "material" theories can be subjected to, and thereby it can neither be proven or disproven. A theologian might also resist the idea that such a nonreligious creator could be so described, but it is important to note again the aforementioned principle that "before any notion of a creator or god can be meaningfully discussed, we must choose a coherent definition as a starting point". We are not offering up an alternative as much as exploring what is possible and not possible. Having established that we know of one possible logical creation narrative, other creation narratives no longer carry the stigma of being illogical.

Even so, the Boltzmann position does not completely satisfy logic. It doesn't explain how its constituent parts, no matter how basic, came into being. Although the Boltzmann position dramatically alleviates the problem by reducing these constituent parts to almost nothing by comparison to conventional "big bang" theories, there is no theory, no logic, no concept that explains how something can emerge from nothing.

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[1] Of Richard Dawkins, it is said "In 1991 he gave the Royal Institution Christmas Lectures for Children (recently released on DVD as Growing Up In The Universe)." 2008/02/11 (http://en.wikipedia.org/w/index.php?title=Richard_Dawkins&oldid=193383450). In another example, atheism celebrated itself with a fervour that was worryingly reminiscent of a religious convention, with a show at the end of 2009 called "Nine Lessons and Carols for Godless People".. http://www.telegraph.co.uk/culture/culturecritics/dominiccavendish/3673838/Ricky-Gervais-Nine-Lessons-and-Carols-for-Godless-People.html

The truly inexplicable problem of the original emergence of existence remains, and the closest we can get is to presume there was no beginning. We can't even say the beginning of everything extends back truly infinitely -- because it doesn't matter how many infinities we invoke, you cannot go back so far as to say at this point, there was nothing. Neither side of the great debate can lay claim to any kind of understanding in this regard.

Fervent religious scepticism of evolution may be as counterproductive as scientific rejection of religion. Moderation is surely called for -- not appeasing mediocrity but moderation rooted in logic. Perhaps we can remain unhappy about the conclusions that "science" reaches, but there is no point in throwing the baby out with the bathwater -- as far as logical disciplines go, Scientific Method is a good starting point in developing theories about the evidence that is before us, provided that we factor in the unknowns and take into account the evidence that is provided by the inexplicable nature of *quintessential consciousness* and the *emergence of existence*.

8.2 Eternal Evolution

Now that we have covered all the difficult logic of Infinity's[1] and closed systems[2] etc, we can start to build broader conclusions about other perceived flaws in "belief sets".

Putting aside some mathematically derived notions that nothing existed before the big bang, the generally accepted assumption is that all matter and energy always existed prior to the big bang, albeit quite possibly in a radically different form with the laws of physics and time itself different. Whether or not the big bang was perhaps just a point of expansion or even happened at all is irrelevant to the point we are going to make, but if it did, then it was/is likely a cyclic occurrence in that something preceded it.

For those that prefer to hold to the notion that there has only ever been one big bang and that beforehand, nothing existed, well we rest our case -- that sounds like the definition of creation! Either logic applies and something cannot come from nothing in which case something has always existed, or logic doesn't apply, and thus neither does science -- we can't have it both ways. Looking at this pragmatically, of course no one can say if the big bang is a cyclic occurrence, but it does seem "absurd" to suggest no such event had ever happened prior and that there was a finite point in time (or in the progression of change) when a universe appeared, before which there was nothing of substance. For these reasons, we will stick with the perceived wisdom of conservation, that there was something, no matter how different or similar, before the big bang.

If we think back the 14 billion years to the last big bang, we are just scratching the surface. If it was cycling, then there was not just 1000 big bangs[3] preceding it, but a trillion, or an infinite number of big bangs. If on the other hand, there was no big bang, then there has been a trillion times a billion years already gone by -- hence whether or not this has been interspersed with big bangs is irrelevant. You can multiply the preceding figures by a further trillion if you like. The crux of the matter is that everything has existed eternally as we saw in 7.3 "Infinity & Hyper Evolution" and therefore it is statistically improbable that something has not already developed (or evolved if you prefer) infinitely.

What does that mean? We aren't who we think we are? That perhaps something infinitely sophisticated has already evolved, and it's the deity or deities some seek? It's not for us or anyone else to comment on this, but the astonishing point is that in a scientifically explained and mathematically rationalised existence, it is not just possible, it's probable. Indeed, it's more or less a statistical impossibility that nothing sophisticated has evolved prior.

Consider how quickly things have been going in our lifetimes -- The cycle of this big bang (that we find ourselves in) is young because everything is still expanding. We have achieved this level of evolution within 4 billion years and we are now on the crest of an exponential increase in evolutionary gains thanks to technology. It's difficult to grasp how much more we could evolve in another 100,000 years, let alone the billions of years that the earth and the sun are predicted to survive. True, we could annihilate ourselves, but as this is one of many cycles, evolution would have found some species or beings that didn't annihilate themselves, and indeed the human race's move towards civilisation, despite all our foibles, is quite promising.

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[1] See also 7.3 "Infinity & Hyper Evolution"

[2] first introduced in 2.3 "Cause and Effect v Free Will"

[3] See also 7.3 "Infinity & Hyper Evolution"

Given this recent exponential rise in mankind's development, if we continue to civilise ourselves and evolve technologically at this rate, we ourselves will become an infinitely sophisticated entity. What does that tell us about what might have already happened in the foregoing eternity of time?

Theoretically, in all the infinity of time that has gone before, something should have evolved infinitely and should have been able to escape big bangs among other things. This is not to mention the preceding trillion big bangs. The chances that nothing evolved infinitely in the last trillion big bangs is surely zero.

At this juncture, for completeness we should take a moment to discuss a recent development in theoretical cosmology. In 2011, the Nobel physics prize was awarded to cosmologists "*for the discovery of the accelerating expansion of the Universe through observations of distant supernovae*"[1] who have thus theorised that there may be something called dark energy. Clearly this is a significant new find with as yet unknown implications. If we presume the rate of expansion has always been increasing in the past as well, and then we take this discovery in reverse, we find expansion going slower and slower the further back in time we go. Thus there could not have been a sudden initial expansion at the time of the big bang at all because that would give us sudden expansion then slowing down and then speeding up again. If we then include theories about dark matter that produce matter spontaneously in the depths of space, we might conclude that there was never a big bang and there was no need for a big bang. If this is a valid extrapolation, this means we have an eternal universe as it is, and it is even more certain that infinite development and infinite evolution has occurred.

It doesn't really matter what we find or conclude, there is no escaping the fundamental logic that all matter and energy must have always existed in some form or other. As said earlier, it might be easier to imagine there simply is no beginning. This is a simple infinity. Out of this infinity, we have already seen a universe come into being so it really is not a giant leap of logic to consider what else this infinity has already brought into being prior. We simply cannot say that this infinity did not produce anything else -- there is no statistical probability that will support that statement.

And so this raises the question -- what are we? Are we the seeded progeny of preceding super beings? Or perhaps the scientifically sanctioned theory of evolution is right, and here we are, the highly improbable product of natural selection -- way out on a limb, highly evolved as of the last few hundred millennium to the point where we can actually sit here and ponder such things, something that our predecessors have incidentally not been able to achieve for the preceding billion years. And yet here we are, obviously far from fully evolved -- we have not yet evolved to the point of Utopia where there is no conflict. We are cellular machines, semi-liquid crustaceans, the product of a fractal like growth from our cellular origins in a very challenging and interesting world -- it just got even more interesting in the last millennium and in the next millennium, who knows. If we keep progressing, learning and discovering at the rate we have in the last century or two, we will surely reach that point of Utopia. How very lucky we are to be right here, right now, fighting the battle for this positive change! Or perhaps it's not luck...

This brings us back to the Problem of Unpredictable Emergence[2].

Maybe we are the only form of life in the universe and maybe this is the first time a vehicle for introspective and analytical intelligence has ever existed in the universe! Maybe all matter has existed in one shape or another for all of eternity and longer but now, just by extraordinary happenstance (one chance in eternity), the universe has finally thrown up "you"! What chance that you are lucky enough to find yourself here?

This uniqueness ties in with what we observe due to lack of extraterrestrial activity, radio or otherwise, and with the confirmed observation of evolution, science concludes "that's it". However, when we look at the bigger picture, taking into account all the aforesaid and putting infinity back into the equation, this uniqueness becomes vanishingly improbable.

Any explanation for the origins of consciousness must take into account infinity and the corresponding infinite improbability that you and I ever became something capable of introspective and analytical intelligence. This infinite improbability goes even deeper when we consider all the history of humanity and that we find ourselves in a time when we have sufficient time and resources to pause for thought, and yet sufficient conflict and anguish to motivate that thought.

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[1] http://www.nobelprize.org/nobel_prizes/physics/laureates/2011/press.html

[2] See 7.4 "The Problem of Unpredictable Emergence"

What chance that the universe would throw up "you", your obvious ability to read and desire to analyse, at this time and place?

8.2.1 Evolving Deities?

How plausible is creationism? For one thing, who created the creator? Religion presents this logical conundrum to many. If a deity created us, what created that deity? A super-deity? And did a super-super-deity create that? To many, this is as bad as the criticism levelled at the theory of the big bang where there is an equal unknown.

It's the old question of cause and effect, what came before. If we don't answer that question, we are guilty of being just as illogical as any other theory we criticise. However, with the benefit of understanding the possibilities that arise from infinite evolution, let's look at how it might be quite possible and logical...In its most simplistic form, evolution is simply change under stress, something gradually developing, adapting to its predicament, location or environment, something changing structure to resist pressure. Darwinian evolution is specifically the survival of the fittest. What if there were a different evolution? What if the greatest stress was simply oblivion, then what about the survival of the most meaningful?

As aforementioned,[1] when summing up his book "The Blind Watchmaker", Richard Dawkins[2] makes a profound point -- "The one thing that makes evolution such a neat theory is that it explains how organised complexity can arise out of primeval simplicity".

If evolution is the only way logic can countenance the materialising emergence of something out of nothing, then we have a working theory for the spontaneous creation of a deity.

Does there need to be any particular reason why a deity did not evolve? After all, the West's dominant Judaeo-Christian religion happily professes to have changed when it introduced the New Testament and overruled the Eye for an Eye, Tooth for a Tooth sentiment of the Old Testament in favour of the New Testament ethics of "love thy neighbour" and "turn the other cheek".

For creationists, the concept that a deity might have evolved may be unwelcome if taken out of context, but in the context that it is a logical framework to use as a starting point, it has its place within the earlier maxim that in order for us to debate the nature of a creator, we must start by conceiving of one. Perhaps it is simply sufficient to say that whatever happened, the universe hasn't simply been lying dormant for eternity.

Simply accepting the possibility that a deity evolved undoes the age-old counterargument against creationism. This is a potential answer to the "What Created God" question -- the old argument that if we attribute our existence, sentience and sapience to God, then what does "He" attribute his existence, sentience and sapience to?

Some would then ask if there is any point to this line of thought because it doesn't matter whether He evolved into existence or We evolved into existence. The question becomes simply one of semantics without any real point, and worse, it means that the creation theory is more complex than the evolution theory.

But there is a big difference if one theory explains a lot more than the other and creates less absurdities. It may be more complicated, but so is the exponential complication of non-theist theories including multiple universes (multiverses[3]), dark energy and dark matter. Complexity should not be the criteria upon which it is judged. That is to say, if one theory explains quintessential conscious awareness, if it explains our emergence into this existence or any existence, if it explains our quest for spiritual guidance, if it explains all the various other "glitches in the matrix"[1], then it should gain more merit than a theory which fails to explain any of these things.

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[1] See earlier passage 4.1.1, "Is Scepticism of Evolution Reasonable?", paragraph 4

[2] See "Bibliography & Media References"

[3] http://en.wikipedia.org/w/index.php?title=Multiverse&oldid=457649027

There is yet a further point against the "What Created God" question. There is another sustainable argument as to how a deity created itself. Simply put, a creator might have come about by a process we cannot begin to understand, something that apparently defies logic. On its own, that would seem to be a ridiculous statement, but is it?

What if there were a significant precedent for something which is commonplace, academically accepted, and yet completely defies logic? Of course we have all the aforegoing in terms of quintessential conscious awareness, but this is the point where we converge with more conventional philosophy.

Let's formally introduce the word QUALIA[2], the philosophical term for the quality of conscious experience that we've been trying to pin down throughout *Awoken Evolution* (we first qualified Qualia at 3.1.2 "Consciousness Defined"). What's different about Qualia and its approach to consciousness is that it has a strong intellectual following with a significant school of thought that concludes it cannot be understood by our logic, and certainly not by any empirical evidence based scientific process.

Wherever there are humans, there are Qualia. This is something that's inexplicable as we will show, that we must all accept, and that is all around us. And on that basis we must accept that there can also be something inexplicable about creation. To be fair, there are "Qualiaphobes" who think it is explainable but as yet have not done so. Regardless, on that basis we can accept that there is something inexplicable about creation now, even if we presume it to be explainable someday in the future, we must accept that some things simply can be inexplicable. And of course this is why we introduced various ways of deciding which is the least inexplicable with absurdity reasoning etc.[3]

Let's look at this Qualia and see whether or not it lives up to the claim of being an inexplicable phenomenon[4]....

8.2.2 Qualia & Sentience

Qualia is an academically embraced aspect of sentience that is generally accepted as inexplicable as explained below. Given that we offered Qualia in the preceding passage as important evidence of there being other inexplicable conundrums apart from creation, it deserves a little examination...

It would seem nature has a magical ability to transform appropriately structured chemicals and energy into sentient matter that can "feel". Whether or not evolution gave us intelligence is irrelevant at this juncture -- at some point, dead cold logic, such as occurs in computers and the cerebellum, "wakes up" in the cerebrums of humans and possibly other animals to become "life". For example, were we strict vegans, we would be giving the gift of life and awareness to the atoms in vegetables. So, perhaps this remarkable property exists in everything and everywhere, and yet some molecules when properly arranged are empowered by the individual experience of sensations.

It is said that in *eastern philosophy*[5], sentience is a metaphysical quality *of all things* that requires our respect and care[6]. When we consider that the facility for sentient conscious experience must arise from "all things" in that we are what we eat, that we are the sum of our atomic parts, then it is little wonder it is considered we should respect all things. The atoms and energy that make us up might have come from just about anywhere from humble water through to complex carbohydrate molecules, all originating from stardust atoms. How do they lock "me" or "you" into any specific organism giving rise to knowledge of experience?

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[1] See "References"

[2] See also 8.2.2 "Qualia & Sentience" shortly

[3] See 7.1 "Absurdity Reasoning"

[4] This is cross-referenced with 8.2.2 "Qualia & Sentience"

[5] http://en.wikipedia.org/wiki/Eastern_philosophy

[6] http://en.wikipedia.org/w/index.php?title=Sentience&oldid=296015215

Sentience[1] is the ability to be conscious of sensations or experiences[2]. These conscious experiences are known to Western academic philosophers as "qualia"[3].

Examples of Qualia include the pain of a headache, the taste of sweet or sour, the blueness of sky. Daniel Dennett wrote that qualia is "an unfamiliar term for something that could not be more familiar to each of us: the ways things seem to us."[4]

From a logical viewpoint, the phenomenon of Qualia in consciousness resists reductionism. That is to say, it cannot be broken down to simpler logical elements and hence poses a "fundamental problem for materialist explanations of the mind-body problem"[5] (the "mind-body problem" being Cartesian Dualism). For example, Howard Robinson "has consistently argued against those explanations of sensory experience that would reduce them to physical origins"[6]. Also Thomas Nagel[7] "is well-known for his critique of reductionist accounts of the mind in his essay "What Is it Like to Be a Bat?" (1974)" and "Nagel also suggests that the subjective aspect of the mind may not ever be sufficiently accounted for by the objective methods of reductionistic science"[8].

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[1] Sentience:
http://en.wikipedia.org/w/index.php?title=Sentience&oldid=300830178#Philosophy_and_sentience...
Philosophy and sentience

In the philosophy of consciousness, "sentience" can refer to the human ability to have subjective perceptual experiences, or "qualia". This is distinct from other aspects of the mind and consciousness, such as creativity, intelligence, sapience, self-awareness and intentionality (the ability to have thoughts that mean something or are "about" something). Sentience is a more general concept than consciousness, of which the latter is often used to imply a form of sentience that includes a sense of time, place and self.

Some philosophers, notably Colin McGinn, believe that sentience will never be understood, a position known as New Mysterianism. They do not deny that most other aspects of consciousness are subject to scientific investigation but they argue that subjective experiences will never be explained; i.e., sentience is the only aspect of consciousness that can't be explained. Other philosophers (such as Daniel Dennett) disagree, arguing that all aspects of consciousness will eventually yield to scientific investigation.

[2] http://en.wikipedia.org/w/index.php?title=Sentience&oldid=296015215 "Sentience is used in the study of consciousness to describe the ability to have sensations or experiences, known to Western academic philosophers as 'qualia' ".

[3] http://en.wikipedia.org/wiki/Qualia

[4] http://en.wikipedia.org/w/index.php?title=Qualia&oldid=299949546

[5] http://en.wikipedia.org/w/index.php?title=Qualia&oldid=299949546

[6] Robinson:
From Wikipedia
http://en.wikipedia.org/w/index.php?title=Qualia&oldid=298747759#Howard_Robinson_and_William_Robinson...
Howard Robinson (and William Robinson)

Howard Robinson is a philosopher who has concentrated his research within the philosophy of mind. Taking what has been through the latter part of the last century an unfashionable stance, he has consistently argued against those explanations of sensory experience that would reduce them to physical origins. He has never regarded the theory of sense-data as refuted, but has set out to refute in turn the objections which so many have considered to be conclusive. The version of the theory of sense-data he defends takes "what is before consciousness (in perception) to be qualia" as mental presentations that are causally linked to external entities, but which are not physical in themselves. Unlike the philosophers so far mentioned, he is therefore a dualist, one who takes both matter and mind to have real and metaphysically distinct natures. His books (particularly Matter and Sense and Perception 39 are characterized by the thoroughness with which he deals with the arguments of opposing philosophers, thus setting a professional example that it would be well for his opponents to follow (for there has been a tendency to take for granted that the theory of sense-data is wholly obsolescent). In one of his most recent articles he takes the physicalist to task for ignoring the fact that sensory experience can be entirely free of representational character. He cites phosphenes as a stubborn example (phosphenes are flashes of neural light that result either from sudden pressure in the brain - as induced, for example, by intense coughing), and points out that it is grossly counter-intuitive to argue that these are not visual experiences on a par with open-eye seeing.

[7] http://en.wikipedia.org/w/index.php?title=Thomas_Nagel&oldid=300650463

[8] Thomas Nagel's paper What Is it Like to Be a Bat? is often cited in debates over qualia. Nagel argues that consciousness has an essentially subjective character, a what-it-is-like aspect. He states that "an organism has conscious mental states if and only if there is something that it is to be that organism - something it is like for the organism.". Nagel also suggests that the

Joseph Levine[1] goes on to say that even if we come to a conclusion that Qualia are physical, there is still an explanatory problem [2]. Similarly, in *Awoken Evolution* we laboured extensively on the "experience-moment" in 1.6.1.1 "The Mechanics of the Experience-Moment". The "experience-moment" is a similar way of describing Qualia, and gives rise to the same problems of explanation.

Of course Qualia is important to *Awoken Evolution* because it adds much-needed verification to the entire point that we're trying to get across. The point being that conscious awareness, Qualia, sentience, the "experience-moment" or whatever you prefer to call it, defies logic.

Indeed, sentience itself, a cornerstone of Qualia, is considered to defy logic as according to an entire philosophical position called New Mysterianism[3]. Sentience is the one aspect of consciousness that

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subjective aspect of the mind may not ever be sufficiently accounted for by the objective methods of reductionistic science. http://en.wikipedia.org/w/index.php?title=Qualia&oldid=359693570#The_.22What.27s_it_like_to_be.3F.22_argument

[1] Levine:
From Wikipedia http://en.wikipedia.org/w/index.php?title=Qualia&oldid=298747759#The_explanatory_gap_argument...
The explanatory gap argument
Main article: Explanatory gap <http://en.wikipedia.org/wiki/Explanatory_gap>
Joseph Levine's paper Conceivability, Identity, and the Explanatory Gap takes up where the criticisms of conceivability arguments, such as the Inverted Spectrum argument and the Zombie argument, leave off. Levine agrees that conceivability is flawed as a means of establishing metaphysical realities, but points out that even if we come to the metaphysical conclusion that qualia are physical, there is still an explanatory problem.
"While I think this materialist response is right in the end, it does not suffice to put the mind-body problem to rest. Even if conceivability considerations do not establish that the mind is in fact distinct from the body, or that mental properties are metaphysically irreducible to physical properties, still they do demonstrate that we lack an explanation of the mental in terms of the physical"
However, such an epistemological <http://en.wikipedia.org/wiki/Epistemological> or explanatory problem might indicate an underlying metaphysical issue - the non-physicality of qualia, even if not proven by conceivability arguments is far from ruled out.
"In the end, we are right back where we started. The explanatory gap argument doesn't demonstrate a gap in nature, but a gap in our understanding of nature. Of course a plausible explanation for there being a gap in our understanding of nature is that there is a genuine gap in nature. But so long as we have countervailing reasons for doubting the latter, we have to look elsewhere for an explanation of the former.

[2] Levine:
From Wikipedia http://en.wikipedia.org/w/index.php?title=Qualia&oldid=298747759#The_explanatory_gap_argument...
The explanatory gap argument
Main article: Explanatory gap <http://en.wikipedia.org/wiki/Explanatory_gap>
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"While I think this materialist response is right in the end, it does not suffice to put the mind-body problem to rest. Even if conceivability considerations do not establish that the mind is in fact distinct from the body, or that mental properties are metaphysically irreducible to physical properties, still they do demonstrate that we lack an explanation of the mental in terms of the physical"
However, such an epistemological <http://en.wikipedia.org/wiki/Epistemological> or explanatory problem might indicate an underlying metaphysical issue - the non-physicality of qualia, even if not proven by conceivability arguments is far from ruled out.
"In the end, we are right back where we started. The explanatory gap argument doesn't demonstrate a gap in nature, but a gap in our understanding of nature. Of course a plausible explanation for there being a gap in our understanding of nature is that there is a genuine gap in nature. But so long as we have countervailing reasons for doubting the latter, we have to look elsewhere for an explanation of the former.

[3] New Mysterianism:
This is introduced under Sentience
http://en.wikipedia.org/w/index.php?title=Sentience&oldid=300830178#Philosophy_and_sentience saying "Some philosophers, notably Colin McGinn, believe that sentience will never be understood, a position known as New Mysterianism"
The opening paragraph of this Wikipedia entry for New Mysterianism

makes consciousness itself inexplicable. In other words, as we have seen elsewhere in *Awoken Evolution*, virtue, compassion, love etc, can be broken down to simpler logical elements and can thus be explained -- all except for the sentient true realisation of sensation -- Qualia.

There are of course critics but at best it seems all they can claim is that a logical solution just hasn't been found Yet[1]. As said earlier, on that basis all conundrums such as creationism (whether irrational or not) could be considered entirely logical -- but the logic has not been found Yet.

And so, if we do not defer to as yet undiscovered logic and evidence, we can conclude that science's general theories of emergence, built around evolution and the big bang, not only permit unknowns such as where the universe came from, they also ignore consciousness, a significant related phenomenon which ultimately even defies logic. That in itself is not so bad because unknowns and incompleteness should not preclude science or any other academic pursuit considering a theory, but the point is that if scientific explanations can permit unknowns and incompleteness, then creationism should not be barred on the same grounds, especially when it comes to trying to answer the truly unanswerable question of "where did existence come from" which is a non-theist way of saying "What Created God" as was broached at the beginning of the prior passage 8.2.1 "Evolving Deities?".

8.2.3 Spanning the Gulf

Let's be clear about the conclusion in the last passage.

It is likely that no Theory of Everything will ever be scientifically endorsed while ever it is based on the current theories of evolution, particle physics and the big bang, etc. This is because theories are normally intended to completely explain every aspect of what they set out to explain. In this case, if by explaining the appearance of humans we come up with a theory that not only leaves consciousness and Qualia sidelined, it renders them as defying logic, then that becomes a very incomplete theory. Furthermore, by ignoring the source of all matter, it does not seem to be a good general theory of emergence at all.

As we pointed out in the much earlier passage 2.1 "In The Beginning", science does not fully endorse any such "Theory of Everything", but then if it doesn't do that, what is the point of all these smaller theories about evolution etc? Indeed, can we even compare creationism and evolutionism as like for like if science is unable to confront the deeper aspects of existence?

To really compare creationist theories versus evolutionist theories, we would at least have to question the terminology. They are different theories about different things, not alternative theories about the same thing, but of course the proponents of each have attempted to use their theories to explain phenomena which belongs to the territory of the other.

What we can say is that non-metaphysical theories, being scientifically endorsed theories, approach the following questions to the extent as shown...

- How do we explain humans? By the theory of evolution by natural selection.
- How do we explain the Cosmos? By the big bang theory.
- How do we explain the emergence of the universe? Unexplained / Ignored.

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http://en.wikipedia.org/w/index.php?title=New_Mysterianism&oldid=299424598 includes... "The unresolvable problem is how to explain sentience and qualia and their interaction with consciousness."

[1] Critics of New Mysterianism:
In support of the point that critics can only claim that a logical solution has not been found Yet (with the emphasis on the word "yet")...
http://en.wikipedia.org/w/index.php?title=New_Mysterianism&oldid=299424598#Philosophy.."New Mysterianism is often characterized as a presupposition that some problems cannot be solved. Critics of this view argue that it is arrogant to assume that a problem cannot be solved just because we have not solved it yet."
http://en.wikipedia.org/w/index.php?title=Sentience&oldid=300830178#Philosophy_and_sentience.."Other philosophers (such as Daniel Dennett) disagree, arguing that all aspects of consciousness will eventually yield to scientific investigation."

- How do we explain the emergence of consciousness, Qualia, sentience? Unexplained / Ignored.
- How do we explain existence? Unexplained / Ignored.

By contrast, metaphysical theories pointing to creators offer an explanation for all of the above questions except for the last item. Even so, comparisons should not be made to the extent that metaphysical theories do not attempt evidence-based explanations to any.

The thrust of this dissertation throughout has been to try and choose between those two great schools of thought, evolution and creationism. We also emphasised this is neither a critique of science nor is it an argument for agnostic/religious/spiritual revival. This is a journey to find out why things do not add up.

However, if these two different schools of thought are not comparable, what can we do to bring these two very different viewpoints, evolution and creationism, closer together?

Firstly, what can we ask of science? It seems that the very least science can do is to:

- Acknowledge the unknown source of the matter in the universe
- Acknowledge the great unknown, truly bottomless chasm of time that prevailed before known history thereby acknowledging the probable impact of infinite time before the big bang.
- Acknowledge the unknown property of quintessence and the related properties of Will and Experience
- Acknowledge that there is no logic that can conceive of the birth of existence itself, for either a metaphysical more nonmetaphysical universe.

Next, what can we ask of creationists? It seems the very least they can do is to:

- Welcome change as inevitable as logic and evidence becomes available, notwithstanding that most faiths have well-documented change in their history anyway
- Acknowledge that we are trapped in reality, and that faith alone is not an adequate answer to the question of the grotesquely high levels of suffering around the world, so far unabated by faith.
- Acknowledge that there is no logic that can conceive of the creation of the creator.

With all this acknowledgement comes a surprising amount of common ground. Moreover, now perhaps we can progress.

8.3 The Fact of the Matter

The fact of the matter is that denying any metaphysical injection, "matter" apparently has regard for itself, can observe itself, can possess Qualia, and that selfsame matter is merely a product of what we have eaten as we noted much earlier in 3.2 "We Are What We Eat". Indeed, as we noted in the passage 7.2.5 "Consciousness Does Not Compute?", matter may have regard for itself without the need for computational qualities.

When we remind ourselves of the point that "we are what we eat", that ultimately these atoms come from stardust, we should keep in mind that the cells within all parts of the food chain contain atoms that are clearly able to be aware of themselves when arranged in the correct manner, such as they apparently are inside the human skull.

So what is it that allows atoms to retain a perspective of observation and possess Qualia? Is it simply that they exist? No, because if that were so, then granite rocks and any other collection of atoms are also potentially capable of self-awareness, albeit dormant. Is it that they are excited by energy? No, because if that were so, then we would have to regard the sun as being hyper aware (although perhaps not able to analyse itself). Is it the product of the flow of logic? No, because if that were the case we should presume sentient attributes to belong to a calculator or a computer.

To analyse each one of these three ingredients may seem pointless but let's consider the product of these three ingredients -- in an ant or a mouse, we get something loosely called life, something in varying degrees that displays an apprehension towards negative sensations, motivation, and other qualities that generally add up to sentient behaviour.

On a massive scale, a large collection of these atoms as occurs in the human brain enables a combined process that supports a perspective of observation that becomes trapped within that human body.

We can imagine such an attribute being simulated by these ingredients as a result of evolutionary forces but the fact of the matter is that "we are that attribute" or if you want to put that in a personal context, "I am that attribute" and I know my quintessential consciousness is not a simulation. Indeed the most certain thing that we can be sure we individually possess is this attribute -- although we can be pretty sure of the atoms, the energy, the logic, we cannot be as certain of them as of the fact that we possess an attribute that is trying to assess these facts!

Through us, matter has become capable of observing itself.

So let's backtrack a little and persist with the notion that life has no reliance on metaphysical injection. If we grant that this empirical proposition is logically possible, what does that mean?

8.3.1 Empirical Epiphany

If non-theist science maintains that consciousness is naturally occurring, and if that science is now to take on board the reality of Quintessential Conscious Awareness as we have been labouring on throughout *Awoken Evolution*, then that science must conclude "dynamic matter", ie: matter that can support electrical and chemical tension, is matter that is capable of being alive, capable of owning and harbouring experience, desire, suffering and joy.

Simply put, if science is right, then some matter must be capable of becoming the seat of consciousness lying dormant until it is awakened. There is no other conclusion we can draw from the empirical evidence in front of us.

Before we so quickly discount other possibilities, we should take a moment to consider our conclusions on other locations for the seat of consciousness such as we did in the much earlier passage 1.6.1 "Neurally Bound Consciousness". In a brief roundup of that passage, my experiencer, my centre of sensation, pain and pleasure can't be anywhere that might float about to another being, so broadly that rules out memories and dataflow. That either leaves us with an incorporeal metaphysical soul of some sort or, as we said above, if scientific rationality is to be maintained, then the seat of my consciousness must be in the matter of the brain.

Might this property exist in the long-lived cells in my brain? In more recent prior passages, we looked at the possibility of it being cells, clusters of cells, etc,[1] but ultimately we found it had to be something fundamental in order that it couldn't be split up. And that just leaves the most basic of matter, molecules or atoms.

> Keeping in mind that all species of life on earth share the same DNA coding and thus similar cell structures, it seems probable that the molecules in question are as can be found in cell nuclei. Given how the experience of such sensations as pleasure and pain has a lot to do with brain function, it is reasonable to presume these molecules exist in the cell nuclei of neurons. This precise detail doesn't matter, but the unavoidable conclusion is that there is a centre of self that "owns" such sensations as pleasure and pain, and that self is most likely to be in the brain. Of course, it seems reasonable to presume this wouldn't be just one cell. However, any cell cluster must be small and relatively indivisible in order that it satisfies the various soul scrambling thought experiments without drawing to an absurd conclusion. That is to say, by splitting clusters of cells within the brain, we must not be able to split the ownership of our sensations such as pleasure and pain, because if we did, it would raise the unanswerable question of "which one becomes you?". This then is a paradox of multiple sensation ownership. I, as an individual, cannot be in two places at once. This is a difficult concept to grasp -- it might be possible to somehow clone my centre of self by splitting it, but "me", as the seat of consciousness that owns pleasure and pain, can only be

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[1] See also 7.2.3 "The Queen Cluster theory"

> singular. If such an operation were possible, then any split off consciousness would become a new distinct individual.
>
> Furthermore, if we presume that this cluster is a mechanism, perhaps a cell or more than one cells, then we are envisaging a machine made of non-sentient components that becomes sentient. As we cannot build such a machine, nor conceive of such a machine, nor even conceive of a test for wakefulness in such machine, it seems more probable that there must be some sentient particles within our neurons rather than a collection of neurons acting as a sentient machine.
>
> Given that we've ruled out memories and dataflow (which would have meant we could plant/transfer pleasure and pain just by transferring memories), the aforesaid cannot be far wrong, and how quintessential conscious centre must be at the least a complement of a small cluster of cells or similar. And so it is that if we take any of these magic molecules or atoms and put them in the centre of a brain, that wet logic computer machine is capable of trapping its own perspective of pleasure and pain, euphoria and dread.

There is of course a means by which such atoms could harbour an individual person's conscious ability to sense pleasure and pain -- and this is where those atoms simply already had this ability in the first place just waiting to be awoken. If any or all matter has this intrinsic property just waiting to be actuated, then regardless of how alien the notion sounds, we must conclude we all arose out of this one uniform capacity for consciousness that exists in the relevant molecules or atoms of the universe.

If we don't find anything particularly special in those relevant molecules or atoms of the brain, we should be able to grab a handful of relevant atoms from just about anywhere and know that if arranged correctly, those atoms can harbour consciousness. And it is this that gives rise to the concept of a *Universal Consciousness* because it shouldn't matter where these atoms come from, and therefore it must be an intrinsic property of atoms all around us. If that is so, either we're just all sharing in this one consciousness, or the universe has the potential to create as many consciousnesses as there are appropriate molecules and atoms.

The science of evolution and all it stands for must lead to this conclusion if it is to maintain that consciousness occurs naturally. It must absurdly conclude that either there is one universal consciousness of which we are all fragments, or that there is a near infinite potential pool of consciousnesses lying dormant all around us until activated, and then returned to this dormant state potentially forever at the point where our cellular machinery can no longer keep it awake.

If we're all sharing this one consciousness, it seems reasonable to conclude we have only become individual due to separate perspectives, environment and memories.

This latter pool of dormant consciousnesses is a bleak scenario indeed. If the universe has the potential to harbour as many consciousnesses as there are appropriate atom collections, then there are the ghosts of animated conscious atom structures all around us, in a ploughed field, in plant matter, in the air anywhere near a local crematorium. This too can only be an absurd conclusion when we consider that by eating other animals, we should be merging consciousness with them, but we observe nothing like this. How would we maintain our distinct consciousness with all the potential for picking up other consciousness along the way?

Absurd perhaps but to say otherwise is to either accept that consciousness comes from another realm or deny we have consciousness at all. If we do not accept either of those alternatives, then to take all known scientific principles and apply logic to empirical evidence only, to pursue this to its inevitable conclusion, we come to an absurdity -- that there is a universal consciousness or a near infinite pool of dormant consciousnesses.

Perhaps Stephen King was right when he famously imbued a car named Christine[1] with consciousness in his 1983 novel. Perhaps we should think twice about burying or cremating our deceased. Perhaps just the act of a child thinking about teddy bears and dolls imbues such inanimate objects with consciousness. Perhaps we should not be so quick to assume it is absurd to get angry with a computer.

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[1] http://en.wikipedia.org/w/index.php?title=Christine_(novel)&oldid=455864797

And so, if we continue to think science can explain our existence without a call on the metaphysical, what other conclusion apart from the foregoing can Science come to? That consciousness is unexplained or unexplainable? Is there any difference between saying something is unexplained or unexplainable and saying it is metaphysical? All that *Absurdity Reasoning*[1] we looked at earlier is now shining a bright inconvenient light on some very muddled thinking.

Can science really be advocating the ability for consciousness in everything? Should we conclude we should revere soil, pay homage to water, and respect the air we breathe? After all, babies will be formed of these things. Humans will develop and be sometimes good or evil, happy or sad, courageous or defeated, and at all times these sentient humans will be able to feel pain or pleasure and to bask in the joy of life.

And at death all of these atoms and molecules are redistributed back into the environment, many of which will find themselves back in the food chain, and back into the living. The logical upshot of assuming that consciousness is neurologically bound and occurring naturally means that consciousness is intrinsically bound with these molecules, and who's to say some of these molecules have not previously existed in other lifeforms? Some of the rarer trace elements have almost certainly passed through the teeming bacterial, animal and plant life that has existed on Earth. Isn't that a form of reincarnation?

Is science really advocating that? Perhaps not outwardly but if we follow the premise that consciousness is naturally occurring to its inevitable conclusion, we find it leads to this absurd conclusion. What other conclusion can a non-theist theory about the origins of consciousness lead to? If we try to maintain logical integrity rooted in empirical evidence, then these are the startling conclusions we must draw.

Or is our quintessential conscious awareness incorporeal and nothing to do with the above?

Oddly enough, maybe science when applied like this is neither muddled nor absurd, but maybe it is right. There are many who already believe in a universal consciousness. It's just the way science entirely ignores such possibilities that is absurd.

However, lest anyone think we are on to something non-metaphysical, even theories of universal consciousness or pools of infinite consciousnesses are not sound theories. Ultimately, such theories of naturally occurring consciousness simply state where consciousness comes from rather than explaining what it is. Quintessential consciousness "is the you" or "is the me" in the machine. This "you" and "me" has to interact with the "reality" of our respective body's somehow. As we explored with computers, we have no idea how any kind of machine, cellular, molecular or atomic, can be mechanically constructed to achieve such a phenomenon, and if we did know, we wouldn't even know how to construct a test to see if we achieved it.

The principles of consciousness and the way it interacts with free will are testament to something far beyond the simplistic fabric of reality as is described by current conventional scientific rationalisation.

8.4 One Final Point

Up until now, we have only mentioned "reincarnation" as an absurd conclusion of neurologically bound consciousness. That is to say, if we are what we eat, and if our molecules have been through some other sentient creature as is likely, then there could be a transfer of that seat of our consciousness, that seat which experiences sensations including pain and pleasure.

Of course Judaeo-Christian beliefs and others do not embrace reincarnation, but that's not the point. We're challenging the status quo of non-theistic science to accept that concluding consciousness is naturally occurring is illogical unless such science also embraces reincarnation as yet another uncomfortable absurd conclusion.

Here we are talking about reincarnation in the very broadest sense of the word. We aren't talking about transfer of memory as required for a very literal reincarnation as in some fantasy fiction, but rather the possibility of your "ability to sensate" awakening elsewhere. And so the broader interpretation of reincarnation is the possibility of "my" or "your" sensitivity to pain and pleasure becoming a reality for me or you in another being.

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[1] See also 7.1 "Absurdity Reasoning"

Let's consider this properly. Speaking for myself, "`I`" am naturally more concerned about a painful injury that might occur to me than I am about such an injury occurring to someone else except perhaps my loved ones. Similarly, I may not be so concerned about any suffering that will occur in people after I am gone. However, if we agree with the inescapable conclusion that neurally bound consciousness means there could be a transfer of the seat of consciousness, then I should become concerned about the plight of people in the future as "`I`" may become one of those people.

There is no physical way an individual's memories could be reincarnated, nor is there is any evidence that memories are reincarnated despite the occasional story, but logic tells us that reincarnation of the seat of consciousness is a distinct possibility. It is only when we gain a full appreciation of the *seat of consciousness* as meaning nothing less than *quintessential conscious awareness* that we start to understand this point.

But there is another way of looking at the broader subject of reincarnation. This isn't so much reincarnation as looking at preconceived ideas about mortality and infinite finality. That is to say, most atheists believe death is final. It is thought of kindly as a sleep from which we will never awaken. Less kindly, it is thought of as a complete end to one's existence. For such an atheist, is that a reasonable conclusion to make?

Look now at yourself. Do you wonder how you got here? Do you not wonder if you will ever get here again? You think not? But you did. You got here. You stand here and you wonder where you came from. In a thousand years time, there will be at least one who will stand there and wonder how he or she got there. And if you can be sure it will not be you, the same individual but with no memory of a past, then rest easy. But how can anyone be sure of that? Things have a notorious way of coming around again... it's just in the nature of things.

And so if we cannot be so sure that future person will not be me or you, think about the responsibility you and I have to our future selves and to the universe. Think of the wonderful promise of hope over pointlessness that brings.

If non-theist science is to portray a sterile existence without a metaphysical dimension from which people can derive hope, reason and spiritual guidance, why doesn't it at least portray this utterly logical upshot? And this is as much the point of *Awoken Evolution* as anything -- to provoke science to explore further and deeper and not to deprive people of these compelling conclusions. Think of the insight that can be given to those that have given up, turned their back on humanity and become antisocial -- this is surely a source of inspiration, comfort and compassion for all of us, even those of us who could never contemplate departure from atheist logic.

And if *Awoken Evolution* is wrong about quintessence, if such emotions as we feel can't be proven to exist except as extreme evolutionary refinement for tribal advantage, what else does describe life? How do we "realise" things (as in real-ize or make real), how do we convert sensations into our own vivid reality? All that we hold dear, including love, true love, compassion, consideration... are we being lied to by our own inherited instincts? And if so, what is it that is being lied to?

It pays to remind ourselves of these timeless conundrums and especially to remind ourselves to think about what it is to be human from the first person perspective, to examine ourselves and ask what it is to be me or you. The scientist asks how we got here and how our environment came into being. We marvel at nature and look at the stars and find ourselves to be small and insignificant specks. However, as individuals, a far bigger question is "how did I get here"? Never mind how the environment got here, never mind the grandeur of mother nature and the sky, how did we each individually get to be in it asking questions about it?

When compared to all that is in the universe, we may be insignificantly small, but as the eyes of the universe, we are at the very least that which permits the universe knowledge of itself and therefore we may well be, despite our insignificant size, the most important asset the universe has.

8.4.1 Atheist Believers

Most of us will have come into contact with the expression that atheism is another belief. What that simply means is that where conclusions are drawn from amongst unknowns, you have faith and belief rather than truth and knowledge. As has been the theme throughout all the foregoing, some of the simplest and most blindingly obvious aspects of existence are great unknowns. And the largest of those is surely consciousness.

Let's review the conclusions we draw regarding simple consciousness...

- My quintessential conscious awareness is the evidence of itself. It is empirical to myself but to no one else.
- My own trapped quintessence is embodied by intelligent clay and while we may be able to explain consciousness and related behaviour such as conscience in other people as reaction/cause/effect, it does not explain my trapped quintessence, my inescapable ownership of pain and other sensations.
- My quintessence fires my free will and makes me responsible.
  - My quintessence is ultimately the seat of my intelligence from which I judge reality itself and is the active wellspring of my virtues from which "free will" is apparent -- that is to say, without my quintessence driven virtues, I would be reactive and free-will demoted to cause and effect, but "**I**" feel myself to be actively interacting with these virtues.
  - This makes "me", my quintessence, ultimately responsible for my actions, a concept which is established in law.
- If free-will is self-delusion, it is my "Self" that feels the effort of exercising my free will, and as the "Self" is necessary to be self-deluded, it proves its own existence making "self-delusion" in this context a paradoxical oxymoron. And finally this seat of quintessence is my ultimate reality because for me it is the last reality to vanish, the last reality that can be questioned.

We simply don't know and we simply cannot know with empirical certainty what consciousness is. We cannot know because the laws of physics simply prevent us from finding out. We can't know what comes before life, what comes after death, and we are prevented from being able to observe and analyse the normal functioning of consciousness in another person. Moreover we cannot know because it is paradox... To know one way or the other would be to be granted the right to be uncompassionate if atheism were proven right, or we would be tin soldiers marching to the beat of total unthinking subordination if deities were proven to exist. Not knowing is the thing that ensures we are alive.

As no one can know for certain about our origins, hardline atheism is a belief just as much so as any other belief. Hardline atheism enjoys one significant difference in that it lays claim to evidence supported by science, and that is the myth that *Awoken Evolution* has sought to confront. There is acceptance that the biblical creation narrative when taken literally doesn't stand up to the evidence and now we need acceptance that scientific rationale for materially explainable creation also wobbles when confronted with deeper evidence.

Another oft heard theme from atheism is that religious absolution means not taking responsibility for one's own deeds whereas atheism does. This logic can be completely confounded by asking how an atheist can have free-will to take that responsibility?

Whilst there are acknowledged questions that challenge religion such as cruelty and suffering, it seems that of all the questions that challenge atheism, the three biggest are as follows...

- What are the origins of everything (before the big bang etc)?
- What is quintessential consciousness?
- How can one take responsibility, literally or legally, without free-will?

Once we have put evidence in its place, to have a conviction that a certain explanation trumps any other explanation without genuine evidence requires nothing but faith for both theism and non-theism. People should not be denied their faith on the basis of shaky evidence any more than people should be compelled to feel ignorant for not taking a stand either for or against theism. Once we have established credibility for creationism based mostly on the inexplicability of consciousness, we have established credibility for faith as a reasonable recourse for those needing spiritual guidance, regardless of what form it should take.

8.5 Epilogue

Faith bleeds into proof. Proving the metaphysical simply makes it the physical. Understanding the paranormal makes it normal. Proving that which we believe in removes the belief.

Evolution in itself is entirely logical. Reality must be logical if we are not to be denied choice. If evolution were disproven and nothing were to take its place, we would all have to move into chapels, synagogues, temples and mosques. Whether you find God within you or outside of you, or if you find the universe to be godless, these are the great challenges, the great choices that you must make -- but without logical constructs such as evolution, you would have no choice, no challenge to blind faith.

That said, evolution is not a complete theory explaining all of existence including the materialising emergence of matter and sentience. Science must ensure the boundaries between theory and knowledge are not blurred. The assertions arising from scientific advances must be moderated to ensure people are not misguided into believing reductionist logic[1] has all the answers. Moderation comes from factoring in the unknown in a credible, philosophical way. Our great philosophers have given us a great insight called dualism, that everything can be judged, questioned or denied except for that part of us which is our own ultimate truth, the inner reality from which we judge reality.[2]

And if this inner reality cannot even be measured, if we cannot even define a test for it[3], does that mean it doesn't exist? If it is also our ultimate individual reality, who would write it off as inconsequential? Who would then deny this great unknown and accuse others of being irrational where they dare to factor it into their daily lives?

Science has its place in structuring knowledge, as a tool for the containment of evidence-based logic, but when it ventures outside of those areas of hard evidence and then seeks to influence or deny credibility for that which nature does not provide evidence on a platter, it risks discrediting itself and even impeding the aspirations of humankind. There is a need to moderate "blind faith" in the efficacy of scientific method. This not only applies to moderating its influence over faith & morality systems, it also applies to social mechanisms where the fashionable adulation of scientific method is the inspiration for unthinking bureaucratic mechanisms devoid of respect for individual sentience. Long-term predictive guidance including weather, environment, health, and economies all need the discipline of scientific method but this needs to be an adaptive process capable of making evaluations based on evidence-based logic first and foremost but moderated by factoring in appropriately proportioned levels of non-evidence-based logic[4] where there are clear vagaries and unknowns. Unlike legal process which gives roughly equal representation to both sides of an argument, science routinely gets one-sided funding and thus representation is only gained for one side of an argument, global warming[5] research being a strong case in point, security and health & safety versus individual freedom and progress being another.

In these modern times, the results of moral vacuums in governance, big business and private conduct are all too plain to see. Moral rationale has traditionally been driven by religious values, and with religion undermined by science, morality limited to scientific rationale can only degenerate life into a claustrophobic hell of individual subjugation.

Awoken Evolution offers a philosophically based riposte to the scientific presumption that faith is without merit, turns blind faith into reasoned belief in every dimension of human existence, and in doing so provides a credible foundation for putting the full scope of a wider rationale back into morality, individual respect, understanding and liberty.

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[1] See earlier passage 2, "Let The Journey Begin", paragraph 6

[2] Cartesian Dualism -- See also 6.2.2 "What can Descartes tell us?"

[3] See earlier passage 2.2.1.4, "Hammer House of Supercomputers", paragraph 27

[4] See also 7 "A New Rationale"

[5] See earlier passage 2.1, "In The Beginning", paragraph 16

As to the individual, we now have a logic-given right to assert ourselves as more than animals, deserving of more understanding from society's mechanisms, deserving of the right to unprejudiced guidance and even research into what good & evil, struggle, suffering and death really means. We all share in an inexplicable phenomenon called consciousness, and we all feel a natural draw to respect it in others, embracing it in society's laws and liberties, and nurturing its future through the nurturing of kith and kin, regardless of one's theistic leanings.

Perhaps the biggest counterargument to any kind of belief is "suffering". "If there is a God, why does He permit so much suffering?" or so the question goes. And yet, if we can show that the ability to suffer itself cannot be explained and is more special than mechanical degradation, for example stupendously more special than simply watching a car engine wear out or a battery being flattened, and much more than a computer system assessing damage, then we must wonder what it is that gives us the ability to be able to suffer in the first place.

And so, in a final twist, suffering doesn't disprove the existence of the metaphysical, quite the opposite. There is a metaphysical component that we cannot understand without which we could not possibly suffer. Suffering isn't the betrayal of faith, it is the logical vindication for faith.

Consciousness, that is to say the totality of quintessential conscious awareness as you and I know to exist when we consider ourselves, our consciousness, to be the recipient of pain and pleasure, cannot be explained.

Can we rely on a third person scientific analysis of consciousness that relegates ourselves down to evolved mechanical reaction? It rather comes back to whether or not one believes in oneself!

But if we are still convinced that the universe can be rationalised, a most laudable conviction and goal, then a starting point would be not to sideline consciousness as a state of being awake and self-aware, but to elevate the existence of quintessential conscious awareness to the status of a dimensional phenomenon -- a phenomenon that is as colossal as the addition of a new dimension to existence every time a fully conscious human being enters the world, a dimension which collapses when a human departs. Gradually, as we chip away at the vagaries of metaphysical philosophy, as we grasp at the substance of consciousness, of the ultimate reality of quintessential conscious awareness, we can submit life to scientific analysis in a new light. I suspect if we do, we will discover that science has its place in defining our material existence in a medically useful way for our bodies, but it will be revealed that there are metaphysical dimensions that cannot be explained logically, and so it is necessary for us to keep learning about the dimension that we ultimately came from, and in the meantime, if one needs solace in belief, science can have no bearing on the matter.

Look up at a clear sky at night. Science takes refuge in the constancy of those distant kings of the cosmos that we call stars. We may be flecks living on a large asteroid called Earth, flecks surrounded by tiny flecks we call animals, microbes and so on, but our human shells are flecks possessed of something that brings observation, knowledge, feelings and life to an otherwise barren universe. It is that possessor that we refer to as ourselves that is granted even greater certainty of observing and judging than reality itself, a greater reality than all in the universe can muster. Whether or not there is a greater being or just a phenomenon awaiting discovery, whether or not ourselves are preternatural, yet to be explained, an inexplicable metaphysical reality, or merely a manifestation of a conscious force bound between multidimensional universes, science and all who dare to think would do well to embrace that phenomenon we call quintessential consciousness.

The truth isn't out there, it's within you. It is you.

References

This section provides general references to commonly used terms and phrases. See next section for "Philosophy Reference" and see "Bibliography & Media References" for commonly referenced works and copyright acknowledgements.

First Law of Thermodynamics:

In general terms, we refer to this as the scientific principle underpinning assertions that something cannot come from nothing. To quote Wikipedia[1], "The **first law of thermodynamics**, an expression of the principle of conservation of energy, states that energy can be transformed (changed from one form to another), but cannot be created or destroyed.". It should be noted that energy and matter are strongly interlinked as demonstrated by Einstein's most famous formula, E=MC2, and so this same principle applies to matter as well as energy -- that is to say, matter may be transformed to and from energy, but similarly, it too cannot come from "nothing".[2]

Peacock's Tail:

The term "Peacock's Tail" has been taken in this text to refer to the topic of evolved pronounced features that may obstruct survival such as is seen in the tail feathers of birds of paradise etc. this is explained in some depth by Richard Dawkins in his book The Blind watchmaker (Penguin books, first published in 1986, reprinted with an appendix 1991, ISBN 0-14-014481-1, printed in England by Clays Ltd, St Ives PLC)[3].

> In this book, Dawkins discusses the topic of Positive Feedback in his book The Blind Watchmaker in the chapter titled Explosions and Spirals. On page 201, Dawkins posits that Positive Feedback arises out of female preference to specific male features accounting for pronounced features such as the plumage of the birds of paradise and the toucan's beak.
>
> On Page 212 Dawkins also posits simply that females choose males that prove they are healthier by displaying a better plumage or etc.
>
> For a debate on the subject, see 4.2.3 "Peacock's Tail syndrome".

Glitch In The Matrix:

Glitch In The Matrix is a term originating from the scene about Déjà Vu in the film The Matrix (1999) [4], where the matrix is a metaphor for the fabric of reality, and the glitch is a metaphor for any unusual phenomena by which we might be led to suspect that all may not be as it seems. Copyright acknowledged to belong to the copyright holders of The Matrix[5].

Pantheology:

As a noun, this is defined as "A system of theology embracing all religions; a complete system of theology"[6] but can be further defined as a theology based on pantheism[7]. For the purposes of this dissertation, pantheology is the adherence to the belief system[8] that the physical realm and the spiritual realm are one and the same, and that apparent differences in beliefs and virtues are largely syntactic variations on the same theme.

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[1] http://en.wikipedia.org/w/index.php?title=First_law_of_thermodynamics&oldid=360678042

[2] for an overview of the laws of thermodynamics including entropy, see, http://en.wikipedia.org/w/index.php?title=Laws_of_thermodynamics&oldid=361435890

[3] See also "Bibliography & Media References"

[4] See The Matrix in "Bibliography & Media References"

[5] See "Bibliography & Media References"

[6] Dictionary pantheology on Answers.com. Webster 1913 Dictionary Copyright © 1913 by Patrick J. Cassidy. Published by Patrick J. Cassidy.

[7] http://en.wikipedia.org/w/index.php?title=Pantheism&oldid=227655021

[8] knowingly unprovable

Philosophy Reference

As stated in the passage 5.1.1 "Scientific Treatment of Consciousness", most accounts of consciousness that deal with the deeper aspects of quintessential conscious awareness make a significant call on the philosophical realm with attention to the metaphysical (as below). A general sweep of the philosophies that were taken into account when compiling *Awoken Evolution* are as follows, listed under the general headings Knowledge, Reasoning, Reality and Determinism. Of course this list is not comprehensive and a good place to start for such a comprehensive list would be on Wikipedia under Metaphysics as referenced next...

General:

Metaphysics: See http://en.wikipedia.org/w/index.php?title=Metaphysics&oldid=362667479 -- **"Metaphysics is a branch of philosophy that investigates principles of reality transcending those of any particular science"**.

Knowledge:

Knowledge, Logic & Reasoning: There are many references to logic, rationale, reasoning and knowledge throughout this dissertation. It is important to note that there is much philosophy about knowledge and not all kinds of knowledge are the same. For this reason, a brief reference list of definitions follows.

- **Rationalism:** See http://en.wikipedia.org/w/index.php?title=**Rationalism**&oldid=226290574 -- **"In epistemology and in its modern sense, rationalism is 'any view appealing to reason as a source of knowledge or justification' (Lacey 286)."** -- Also "**Continental rationalism** is an approach to philosophy based on the thesis that human reason can in principle be the source of all knowledge. It originated with René Descartes..".. (entry removed & combined from http://en.wikipedia.org/wiki/Continental_rationalism since 5 Mar 2006 when first copied).
- **Empiricism:** See http://en.wikipedia.org/wiki/**Empiricism** - empiricism is a theory of knowledge that is practical rather than abstract
- **Epistemology:** See http://en.wikipedia.org/wiki/**Epistemology** - generally the philosophical epicentre for Knowledge theory. This is where we see the classic Plato truth table of knowledge being Propositions encompassing both truths and beliefs, and where truths and beliefs overlap, we have knowledge! (Ref: http://en.wikipedia.org/w/index.php?title=Epistemology&oldid=225358182)
- **Knowledge:** See http://en.wikipedia.org/wiki/**Knowledge**
- **Foundationalism:** See http://en.wikipedia.org/wiki/**Foundationalism** - "states that there have to be some basic beliefs that are justified without reference to others".. See http://en.wikipedia.org/wiki/Epistemology#Skepticism in http://en.wikipedia.org/w/index.php?title=Epistemology&oldid=224532985
- **Logical_positivism:** See http://en.wikipedia.org/w/index.php?title=**Logical_positivism**&oldid=225599594
- **A_priori** and **a_posteriori:** **See** http://en.wikipedia.org/wiki/**A_priori** and **a_posteriori**_%28philosophy%29 - "*A Priori* knowledge" meaning absolute such as "all bachelors are unmarried", "*A Posteriori* knowledge" meaning with experience.

- **Types_of_knowledge:** See http://en.wikipedia.org/wiki/**Propositional_knowledge**#**Types_of_knowledge**
- **Truth:** See http://en.wikipedia.org/wiki/**Truth**
- **Scientific_knowledge:** See http://en.wikipedia.org/wiki/**Scientific_knowledge** -introduction to the ideals of Science and see Reasoning & Logic next.
- **Philosophical_skepticism:** See http://en.wikipedia.org/wiki/**Philosophical_skepticism**
- **Certainty:** See http://en.wikipedia.org/wiki/**Certainty**
- **Essentialism:** See http://en.wikipedia.org/wiki/Essentialism & See http://en.wikipedia.org/wiki/Non-Essentialism

Reasoning & Logic:

The mainstay of acquiring knowledge is science ("Scientific method refers to a body of techniques for investigating phenomena, acquiring new knowledge, or correcting and integrating previous knowledge. To be termed scientific, a method of inquiry must be based on gathering observable, empirical and measurable evidence subject to specific principles of reasoning. A scientific method consists of the collection of data through observation and experimentation, and the formulation and testing of hypotheses."[1]) -- which in turn requires Reasoning[2].

The salient philosophies and processes that were felt to be more relevant to *Awoken Evolution* are as follows...

- **Theory:** See http://en.wikipedia.org/w/index.php?title=**Theory**&oldid=224642483#**Science** -- **Scientific tests** of the quality of a **theory** include its **conformity to known facts** and its **ability to generate hypotheses with outcomes that would predict further testable facts**
- **Deductive_reasoning:** See http://en.wikipedia.org/w/index.php?title=**Deductive_reasoning**&oldid=226385305
- **Inductive_reasoning:** See http://en.wikipedia.org/w/index.php?title=**Inductive_reasoning**&oldid=225852277
- **Abductive_reasoning:** See http://en.wikipedia.org/w/index.php?title=**Abductive_reasoning**&oldid=227746710
- **Reductio ad absurdum:** See http://en.wikipedia.org/w/index.php?title=Reductio_ad_absurdum&oldid=351159041 -- (Latin: "reduction to the absurd") -- "a form of argument in which a proposition is disproven by following its implications to a logical but absurd consequence".

Logic**:** In order to qualify what we mean by Logic, a statement about the way we employ the word herein as necessary.

> Logic, like Knowledge, is not always a consistently agreed entity. Fortunately, most of us have a common sense approach to the words, Logic, Logical, Logically -- an approach based on "tacit knowledge" as below. This statement qualifying what we mean by logic was found necessary after considering the more ambiguous nature of the definition of logic according to some dictionaries (as below).
>
> For the purpose of this dissertation, Logic, Logical, Logically should be taken to mean "adds up" or "makes sense", especially when methodically analysed. A more formal interpretation would be

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[1] http://en.wikipedia.org/w/index.php?title=Scientific_method&oldid=364177876

[2] http://en.wikipedia.org/w/index.php?title=Reasoning&oldid=363522909

Cogent Argument[1] or Deductive Logic[2]. Of course the meaning will vary according to the context and may occasionally refer to Computer Logic[3].

This is in contrast to the more studious, academic definition of logic as found in dictionaries under the single word entry for "Logic", variously described as "the study of the principles of valid inference and demonstration" [4], and "The study of the properties of propositions and deductive reasoning by abstraction and analysis of the form rather than the content of propositions under consideration"[5].

Reality:

- **Dualism:** See http://en.wikipedia.org/w/index.php?title=**Dualism**_%28philosophy_of_mind%29&oldid=224692055#Descartes_and_his_disciples -- Termed "**Cartesian Dualism**, in honour of Descartes".
  - See also *6.2 "Cartesian Dualism and its Relevance"*
- **Apperception:** Philosophy Dictionary: **Apperception** -- Term introduced by Leibniz for the mind's reflective apprehension of its own inner states. **Kant** distinguishes **empirical apperception**, which is consciousness of the ordinary, changing self, and **transcendental apperception**. This is the unchangeable consciousness that **unifies experience** as that of one subject, and is thereby the **ultimate foundation of the very possibility of experience and thought**. -- Philosophy Dictionary 'apperception' on Answers.com. The Oxford Dictionary of Philosophy Copyright © 1994, 1996, 2005 by Oxford University Press. Published by Oxford University Press.
- **Consciousness:** http://en.wikipedia.org/w/index.php?title=**Consciousness**&oldid=229754510 -- "Consciousness defies definition....." & http://en.wikipedia.org/w/index.php?title=Consciousness&oldid=292831363 -- "**Consciousness** is a word often used in everyday speech to describe being awake and aware - responsive to the environment, in contrast to being asleep or in a coma. In philosophical and scientific discussion however, the term is restricted to a more precise meaning related to the specific way in which humans are mentally aware in such a way that they **distinguish clearly between themselves (the thing being aware) and all other things and events**.

  > This "self-awareness" may involve thoughts, sensations, perceptions, moods, emotions, and dreams.
  >
  > Consciousness is the subject of much research in philosophy of mind, psychology, neuroscience, cognitive science, and artificial intelligence. Issues of practical concern include how the presence of consciousness can be assessed in severely ill or comatose people; whether non-human consciousness exists and if so how it can be measured; at what point in foetal development consciousness begins; and whether computers can achieve conscious states."
- **Existentialism:** "A philosophy that emphasizes the uniqueness and isolation of the individual experience in a hostile or indifferent universe, regards human existence as unexplainable, and stresses freedom of choice and responsibility for the consequences of one's acts". (Ref: "existentialism." The American Heritage® Dictionary of the English Language, Fourth Edition. Houghton Mifflin Company, 2004. Answers.com 10 Jan. 2010. http://www.answers.com/topic/existentialism ; Also: http://www.thefreedictionary.com/existentialism -- The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company. Updated in 2009. Published by Houghton Mifflin Company. All rights reserved).

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[1] http://en.wikipedia.org/w/index.php?title=Cogency&oldid=160822775

[2] http://en.wikipedia.org/w/index.php?title=Deductive_reasoning&oldid=225712031#Deductive_logic

[3] http://en.wikipedia.org/w/index.php?title=Logic_gate&oldid=227442427

[4] http://en.wikipedia.org/w/index.php?title=Logic&oldid=225600558

[5] from "Dictionary 'formal logic' on Answers.com. The American Heritage® Dictionary of the English Language, Fourth Edition Copyright © 2004 by Houghton Mifflin Company. Published by Houghton Mifflin Company." as redirected from "logic" when enterred

Existentialism is given another variation of the same meaning, significantly emphasising determinism, as follows: "existentialism (Philosophy) a modern philosophical movement stressing the importance of personal experience and responsibility and the demands that they make on the individual, who is seen as a free agent in a deterministic and seemingly meaningless universe" (Ref: Collins English Dictionary - Complete and Unabridged © HarperCollins Publishers 1991, 1994, 1998, 2000, 2003; Source: http://www.thefreedictionary.com/existentialism 2010).

Awoken Evolution first uses the word existentialism in *3.1.3 "Anecdotal 'I' Evidence"* where we note that its breadth of meaning reduces its usefulness in defining the essence of what it is to exist. It is a difficult concept to elucidate, not least because it seems the word should be self explanatory along the lines of the first of the above two definitions. However, the second arguably less self-explanatory definition, is perhaps considered to be more descriptive.

In layman's terms, whilst cautioning against any explanation that is so brief as to be misleading, existentialism may be thought of as follows: To be an existentialist is to accept that because we exist, we can or should take ultimate responsibility for ourselves and create our own virtues rather than deferring responsibility to the virtues of deities or not taking responsibility at all.

- **Simulacra_and_Simulation:** http://en.wikipedia.org/w/index.php?title=Simulacra_and_Simulation&oldid=226754856 a philosophical work discussing reality, symbols and society

Determinism, Free-Will & Nihilism:

Philosophies that examine the apparent sterile predetermined immediacy and predictability of life, in contrast to the feeling of the divine vitality and inexplicability of it, include Determinism [1] versus Free Will[2] and Nihilism[3].

As an overview, **Nihilism** (From Wikipedia[4]) may refer to

- Nihilism, a philosophical position which argues that Being is without objective meaning, purpose, truth, or value.
- Nihilist movement, a cultural movement in 1860s Russia
- Mereological nihilism, disbelief in parts and wholes
- Metaphysical nihilism, disbelief in objects
- Epistemological nihilism, disbelief in knowledge
- Moral nihilism, disbelief in objective moral facts
- A concept in the philosophy of Friedrich Nietzsche

Determinism also appears under existentialism below.

Bibliography & Media References

- *Richard Dawkins*: Professor Richard Dawkins, a fellow of New College, Oxford since 1970, born Clinton Richard Dawkins March 26, 1941. Dawkins is a British ethologist, evolutionary biologist and popular science writer. Works include (incomplete list):
  - The Selfish Gene, Oxford University Press, 1976, ISBN 0-19-286092-5
  - The Extended Phenotype, Oxford University Press, 1982, ISBN 0-19-288051-9
  - The Blind Watchmaker, W. W. Norton & Company, 1986, ISBN 0-14-014481-1

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[1] http://en.wikipedia.org/w/index.php?title=Determinism&oldid=225809575

[2] http://en.wikipedia.org/w/index.php?title=Free_will&oldid=226355042

[3] http://en.wikipedia.org/w/index.php?title=Nihilism&oldid=228767186

[4] http://en.wikipedia.org/w/index.php?title=Nihilism_%28disambiguation%29&oldid=210050057

(Edition most referred to: Penguin books, first published in 1986, reprinted with an appendix 1991, ISBN 0-14-014481-1, printed in England by Clays Ltd, St Ives PLC).

Referenced extract: Page 118: of:

- The Blind watchmaker, Richard Dawkins
- Penguin books, first published in 1986, reprinted with an appendix 1991, printed in England by Clays Ltd, St Ives PLC
- ISBN 0-14-014481-1 [1]

Chimps are a different species to us as they have a different number of chromosomes.

- Climbing Mount Improbable, New York: W. W. Norton & Company, 1996, ISBN 0-393-31682-3
- Unweaving the Rainbow, Boston: Houghton Mifflin, 1998, ISBN 0-618-05673-4
- A Devil's Chaplain, Boston: Houghton Mifflin, 2003, ISBN 0-618-33540-4
- The Ancestor's Tale, Boston: Houghton Mifflin, 2004, ISBN 0-618-00583-8

Referenced extract: Page 502: of:

- The Ancestor's Tale, "A Pilgrimage to the Dawn of Life", Richard Dawkins
- published by Weidenfeld & Nicolson, the Orion publishing group, Wellington house, 125 Strand, London WC2R OBB
- ISBN 0-297-82503-8 [2]

"..., when segmentation originated, they must have been a mutation or transition" (from one vertebrate to two or more etc). "It is hard to imagine such a freak surviving, let alone finding a mate and reproducing". This highlights the problems of speciation or species jumps. In general, this page in the book was talking about how snakes have varying numbers of vertebrae and how each vertebrate comes complete with its nerves, ribs etc and constitutes a "segment"

- The God Delusion, Bantam Books, 2006, ISBN 0-618-68000-4

Reference: http://en.wikipedia.org/w/index.php?title=Richard_Dawkins&oldid=220312189

- Fermat's Last Theorem: ISBN 1-85702-521-0, Simon Singh
- The Penguin Freud Reader, ISBN 0-14118743-3. Edited by Adam Phillips
- *Google*: References to Google are in regard to the search engine corporation, Google Inc.:1600 Amphitheatre Parkway, Mountain View, CA 94043, Phone: +1 650-253-0000, Fax: +1 650-253-0001 (As re-confirmed 2010/05/11[3]).
- *The Matrix*: Refers to the Film titled The Matrix, Written & Directed by The Wachowski Brothers, Distributed by Warner Bros., Village Roadshow Pictures, released 1999[4].
- BBC - British Broadcasting Corporation, as referenced throughout.
- Wikipedia - Wikimedia Foundation Inc., 149 New Montgomery Street, 3rd Floor, San Francisco, CA 94105, USA

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[1] http://www.book-info.com/isbn/0-14-014481-1.htm

[2] http://www.book-info.com/isbn/0-297-82503-8.htm

[3] http://www.google.com/contact/

[4] http://en.wikipedia.org/w/index.php?title=The_Matrix&oldid=227786810

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